DAVID C. SHEPARD

VS.

NORTHERN PACIFIC RAILWAY COMPANY, ET AL.

COMPLETE INDEX

	PAGE.
JOHN B. BAIRD:	
Direct examination, Vol 3	1434–1492
Complainant's Exhibit 35	1441
" " 36	1445
" " 37	1447
" " 38	1447
" " 39	1448
" " 40	1459
" " 41	1460
" " 42	1472
" " 43	1483
" " 44	1486
" " 45	1488
" " 46	1491
Cross-examination	1492–1514
Re-direct examination	1514–1531
Complainant's Exhibit 47	1523
" " 48	1528
Re-cross examination	1531–1591
JOHN B. BAIRD—Recalled for Complainant:	
Direct examination, Vol. 4	2187–2194
Complainant's Exhibit 67	2190
Cross-examination	2194–2208
Re-direct examination	2208–2209
Re-cross examination	2209–2211
FRED E. BARNEY:	
Direct examination, Vol. 2	1092–1098
Cross-examination	1098–1108
Re-direct examination	1108–1109
Re-cross examination	1109–1113

	PAGE.
JOHN B. BERRY:	
Direct examination, Vol. 2	718–756
Complainant's Exhibit 24	722
" " 25	727
Cross-examination	756–886
Complainant's Exhibit 26	842
Re-direct examination	886–899
Re-cross examination	900–904
CHARLES W. BUNN—For Complainant:	
Direct examination, Vol. 4	2183–2185
Cross-examination	2185–2186
ALEX. M. CLELAND:	
Direct examination, Vol. 3	1599–1622
Complainant's Exhibit 49	1604
" " 50	1608
" " 51	1611
" " 52	1614
" " 53	1616
Cross-examination	1622–1657
THOMAS COOPER:	
Direct examination, Vol. 1	122–147
Complainant's Exhibit 8	125
" " 9	126
" " 10	133
" " 11	141
Cross-examination	147–238
Defendants' Exhibit C	172
Re-direct examination	238–239
Complainant's Exhibit 12	238
THOMAS COOPER—Recalled:	
Cross-examination	420–444
Defendants' Exhibit L	421
" " M	426
" " M-1	436
Re-direct examination	444–452
Re-cross examination	453–454

	PAGE.
THOMAS COOPER—Recalled:	
Direct examination, Vol. 2	1059–1071
Complainant's Exhibit 29	1061
" " 30	1064
Cross-examination	1071–1092
THOMAS COOPER—Recalled for Complainant:	
Direct examination, Vol. 6	3040–3077
Complainant's Exhibit 70	3041
" " 71	3043
" " 72	3047
" " 73	3049
" " 74	3052
" " 75	3055
" " 76	3062
" " 77	3068
" " 78	3077
Cross-examination	3078–3119
Re-direct examination	3119–3121
WILLIAM L. DARLING:	
Direct examination, Vol. 1	5–47
Complainant's Exhibit 1	6
" " 2	7
" " 3	55
Cross-examination	47–121
Defendants' Exhibit B	114
Complainant's Exhibit 4	118
" " 5	121
" " 6	121
" " 7	121
WILLIAM L. DARLING—Recalled:	
Direct examination	534–536
Cross-examination	536–566
Re-direct examination	566–578
Re-cross examination	578–590
Defendants' Exhibit R	585
" " S	586
" " T	593
WILLIAM L. DARLING—Recalled:	
Cross-examination, Vol. 2	936–988
Defendants' Exhibit FF	936
Re-direct examination	988–1005

PAGE.

Re-cross examination 1005–1008
Defendants' Exhibit II..... 1005
" " JJ..... 1005
" " KK..... 1005
" " LL..... 1005
Re-direct examination 1008–1016
Re-cross examination 1016–1023

WILLIAM L. DARLING—Recalled for Complainant:
Direct examination, Vol. 6.....3207–3229
Complainant's Exhibit 81..... 3212
" " 82..... 3214
" " 83..... 3221
" " 84..... 3223
" " 85..... 3229
Cross-examination 3229–3233
Re-direct examination 3233–3241
Complainant's Exhibit 86..... 3233
Re-cross examination 3241–3247

HOWARD ELLIOTT:
Direct examination, Vol. 3.....1217–1289
Complainant's Exhibit 32..... 1287
" " 33..... 1287
" " 34..... 1288
Cross-examination 1289–1376
Defendants' Exhibit NN..... 1343
Re-direct examination 1376–1390
Re-cross examination 1390–1420

HOWARD ELLIOTT—Recalled for Complainant:
Direct examination, Vol. 6.....3121–3151
Complainant's Exhibit 79..... 3122
" " 80..... 3122
Cross-examination 3151–3194
Re-direct examination 3194–3207
Complainant's Ex. 80–A..... 3204

HOWARD ELLIOTT—Recalled for Complainant:
Cross-examination, Vol. 7.....3556–3582

LESTER B. ELWOOD:
Direct examination, Vol. 1..... 480–487
Complainant's Exhibit 22..... 483
Cross-examination 487–502
Re-direct examination 502–504
Re-cross examination 504–507

PAGE.

LESTER B. ELWOOD—Recalled:
Direct examination, Vol. 2.....1024–1032
Cross-examination 1032–1048
Re-direct examination 1048–1053
Re-cross examination 1053–1059

ALLAN L. FLINN—For Defendants:
Direct examination Vol. 5.....2384–2419
Defendants' Exhibit YY..... 2387
" " ZZ..... 2406
" " 3-A..... 2408
" " 3-B..... 2418
Cross-examination 2419–2511
Re-direct examination 2512–2516
Re-cross examination 2516–2521

H. A. GRAY:
Direct examination, Vol. 1..... 259–275
Complainant's Exhibit 14..... 266
" " 15..... 270
" " 16..... 270
" " 17..... 271
" " 18..... 272
" " 19..... 273
Cross-examination 275–416
Complainant's Exhibit 20..... 274

H. A. GRAY—Recalled:
Cross-examination, Vol. 2..... 592–718
Defendants' Exhibit U..... 594
" " V..... 609
" " W..... 669
" " Y..... 673
" " Z..... 676
" " AA..... 685
" " BB..... 709
" " CC..... 715
" " EE..... 718

H. A. GRAY—Recalled:
Direct examination, Vol. 2..... 905–936
Complainant's Exhibit 28..... 932

H. A. GRAY—Recalled:
Cross-examination, Vol. 3.....1162–1211
Defendants' Exhibit MM..... 1163
Re-direct examination 1211–1216

CONWAY W. HILLMAN—Recalled for Defendants: PAGE.
Direct examination, Vol. 6.....3268–3450
Defendants' Exhibit 3–L..... 3276
" " 3–M..... 3279
Cross-examination 3450–3484
Re-direct examination 3484–3485
Re-cross examination 3485–3553

CONWAY W. HILLMAN—Recalled for Defendants:
Cross-examination, Vol. 7.....3582–4107

CONWAY W. HILLMAN—Recalled for Defendants:
Direct examination 4122–4154
Defendants' Exhibit 3–N..... 4136
" " 3–O..... 4139
" " 3–P..... 4151
Cross-examination 4154–4170
Defendants' Exhibit 3–Q..... 4164

CONWAY W. HILLMAN—Recalled for Defendants:
Direct examination 4243–4250
Defendants' Exhibit 3–V..... 4246
" " 1–Master..... 4246

WILLIAM G. JOHNSON:
Direct examination, Vol. 3.....1657–1700
Complainant's Exhibit 54..... 1659
" " 55..... 1664
" " 56..... 1668
" " 57..... 1671
" " 58..... 1672
" " 59..... 1677
" " 60..... 1682
" " 61..... 1684
" " 62..... 1688
" " 62-A..... 1688
" " 62–B, C, D, E F, G, H..... 1692
" " 63..... 1694
" " 64..... 1697
Cross-examination 1700–1760

WILLIAM G. JOHNSON—Recalled:
Cross-examination, Vol. 4.....2212–2239

WILLIAM G. JOHNSON—Recalled for Complainant: PAGE.
Direct examination, Vol. 6.....3248–3256
Complainant's Exhibit 87..... 3252
" " 88..... 3252
Cross-examination 3257–3266
Re-direct examination 3267–3268
Complainant's Exhibit
Elliott (Johnson) 80-B..... 3256

WILLIAM G. JOHNSON—Recalled for Complainant:
Cross-examination, Vol. 7.....4107–4121

WILLIAM G. JOHNSON—Recalled for Complainant:
Direct examination 4214–4227
Complainant's Exhibit 90..... 4215
" " 91..... 4215
" " 92..... 4216
" " 93..... 4223
Cross-examination 4227–4237
Re-direct examination 4237–4239

MASTER AND COUNSEL:
Discussion 2240–2261

DWIGHT C. MORGAN—Called for Defendants:
Direct examination, Vol. 4.....1762–1970
Defendants' Exhibit OO..... 1833
" " PP..... 1834
" " OO–1, 2, 3..... 1835
" " OO–4, 5, 6..... 1836
" " QQ..... 1838
Cross-examination 1970–2105
Re-direct examination 2105–2135
Re-cross examination 2135–2182
Defendants' Exhibit RR..... 2131
Complainant's Exhibit,
Report to Commission..... 2171
Complainant's Exhibit 65..... 2172
" " 66..... 2172

DWIGHT C. MORGAN—Recalled for Defendants:
Direct examination 2262–2273
Defendants' Exhibit TT..... 2262
" " UU..... 2265
" " VV..... 2265
" " WW..... 2265
" " XX..... 2268

PAGE.
Cross-examination 2273–2294
Re-direct examination 2294–2295
Re-cross examination 2295–2358
Re-direct examination 2358–2362
Re-cross examination 2362–2382

DWIGHT C. MORGAN—Recalled for Defendants:
Cross-examination, Vol. 5.....2522–2544
Complainant's Exhibit 68..... 2537
Re-direct examination 2544–2554
Re-cross examination 2554–2573
Re-direct examination 2573–2575
Re-cross examination 2575–2607

DWIGHT C. MORGAN—Recalled for Defendants:
Direct examination, Vol. 7.....4177–4191
Defendants' Exhibit 3-R..... 4178
" " 3-S..... 4178
" " 3-T..... 4182
Cross-examination 4191–4213

WILLIAM C. READ:
Direct examination, Vol. 3.....1116–1128
Cross-examination 1128–1156
Re-direct examination 1156–1158
Re-cross examination 1158–1162

CHARLES F. STAPLES—For Defendants:
Direct examination Vol. 5.....2607–2697
Defendants' Exhibit 3–C..... 2614
" " 3–D..... 2633
" " 3–E..... 2653
" " 3–F..... 2655
" " 3–G..... 2676
" " 3–H..... 2678
" " 3–I..... 2682
" " 3–J..... 2685
Cross-examination 2697–2969
Complainant's Exhibit 69..... 2756
Re-direct examination 2969–2978
Re-cross examination 2979–2987
Re-direct examination 2988–3003
Defendants' Exhibit 3–K..... 2988
Re-cross examination 3003–3038

CHARLES F. STAPLES—Recalled for Defendants: PAGE.
Direct examination, Vol. 7.....4239–4241
Defendants' Exhibit 3–U..... 4241
Cross-examination 4241–4243

JOHN D. STRYKER:
Direct examination, Vol. 1..... 454–468
Complainant's Exhibit 21..... 461
Cross-examination 468–478
Re-direct examination 478–479

McNEIL V. SEYMOUR:
Direct examination, Vol. 3.....1591–1592
Cross-examination 1593–1598

OSCAR L. TAYLOR:
Direct examination, Vol. 3.....1420–1430
Cross-examination 1430–1434

JOHN J. WATSON:
Direct examination, Vol. 1..... 507–514
Cross-examination 514–534
Defendants' Exhibit O..... 528
Complainant's Exhibit 23..... 513

THOMAS YAPP—For Defendants:
Direct examination, Vol. 7.....4171–4177

UNITED STATES CIRCUIT COURT,

DISTRICT OF MINNESOTA,

THIRD DIVISION.

(In Equity.)

DAVID C. SHEPARD,

Complainant,

vs.

NORTHERN PACIFIC RAILWAY COMPANY, GEORGE T. SIMPSON, IRA B. MILLS, CHARLES F. STAPLES, CHARLES E. ELMQUIST, E. A. EVARTS, O. J. WHITEMAN, J. RUMSEY REEVE, ACHILLE MICHAUD, CHARLES MICHAUD AND ADOLPH MICHAUD,

Defendants.

APPEARANCES:

HOW, BUTLER & MITCHELL,
Solicitors for Complainant.

EDWARD T. YOUNG, Attorney General,
THOMAS D. O'BRIEN and EDMUND S. DURMENT,
Solicitors for members of the Railroad and Warehouse Commission, et al.

VOLUME 4.

CHAS. E. OTIS, Master.

GEO. N. HILLMAN, Reporter.

CAPITOL BUILDING, St. Paul, Minn., Wednesday, December 23, 1908.

The hearing was resumed at 10 A. M.

DWIGHT C. MORGAN,

sworn on behalf of Defendants, testified:

By Mr. O'BRIEN:

Q. Your name is Dwight C. Morgan?

A. It is.

Q. What is your age?

A. Forty years.

Q. And what is your profession?

A. Civil engineer.

Q. Of what institution are you a graduate?

A. The public schools of Bloomington and of Dwight, Illinois, and the University of Michigan.

Q. How long have you followed your profession?

A. Since 1887.

Q. Will you describe the character of your engagements since that time?

A. Yes. I have prepared some memorandum here that will carry it through consecutively; if it is agreeable I will read it from that. My experience in engineering works began in 1887 on the construction of the Ohio river bridge of the Illinois Central Railroad Company, at Cairo, Illinois, where I was employed as rodman and inspector of cement, making scientific tests of the quality of the cement used in the foundations and piers of that structure. In 1889 and 1890 I was employed in a similar capacity on the Merchants bridge, constructed across the Mississippi river at St. Louis. In 1891 I was employed by the Northern Pacific Company as rodman on work between Garretson and Helena, in Montana, and later as draughtsman and instrument man on the line over St. Regis pass, which was under the immediate charge of Mr. W. L. Darling, then assistant

engineer and now chief engineer of the Northern Pacific Railroad. In 1892 I was employed as assistant engineer of the Southern Pacific, with headquarters at Oakland, California, having duties to perform in connection with maintenance of way, including bridges, buildings, etc., comprised of about, as I recollect, 1,800 miles of line, up into the Sierra Nevada mountains. I resigned from this service to assist my father, Richard P. Morgan, in a comprehensive investigation of the railways of California for the Railroad Commission of that state, reporting to them on what would be just and equitable rates of freights and fares for the railroads of California; this inquiry involved an examination of all of the railways of the state and of the conditions entering into their construction, maintenance and operation. In 1893 I returned to Illinois and was appointed engineer of the Illinois railroad commission, with headquarters at Springfield, Illinois. My duties in that capacity required examinations and reports upon the character of the construction and equipment of the railways of Illinois and of the standards of maintenance observed, also supervision over interlocking and signaling apparatus and investigations and reports upon railway accidents when loss of life resulted. I served in this capacity until 1897, when I was appointed assistant engineer of the Illinois Central railroad, with headquarters at Chicago. I had charge of the revisions of line and grade in Illinois and Kentucky, and in the winter of 1898 made the surveys and location for a line through the Yazoo delta in Mississippi. Upon completing the location, I resigned to enter the service of the Chicago & Alton Railroad Company, with which latter company I remained until 1901, engaged on special work for the president (president Felton) on signaling and grade and line revision work. I took charge of and managed the Quincy-Carrolton & Western Railroad from the time of its acquisition by the Chicago & Alton until about the time of its absorption, when I was transferred as engineer of main-

tenance of way of the western division, with headquarters in Kansas City. I had charge of the reconstruction of that division of the Alton road to conform to modern operating conditions. That work involved extensive line and grade changes, new bridges, new buildings, in fact the line was regenerated under my direction. Upon the completion of that work I was appointed assistant engineer of the Chicago Great Western, with headquarters in St. Paul. I had charge of surveys for new lines and was resident engineer on revisions of old lines. I left the service of the Great Western in 1902 to accept service with the Chicago, St. Paul, Minneapolis & Omaha Railway, as assistant engineer in charge of the construction of the new machine shops and terminals at Sioux City, Iowa, where I remained until the work was completed. I was then assigned engineering duties in St. Paul, and when the Wisconsin railroad appraisal was undertaken I was given charge of and carried to completion the cost of reproduction and present value of the Omaha properties in that state. I continued in the engineering department until 1904, when I was appointed assistant to the general superintendent of that company, having to do with the details of the operation and maintenance of the system, remaining in that capacity until January 15, 1906, when I was appointed engineer of the Minnesota Railroad & Warehouse Commission in charge of the valuation of the railways of Minnesota; since which time I have devoted myself entirely to that work. During the period 1887 to 1906, at intervals, when not actively in the employ of railway companies, I assisted my father, Richard P. Morgan, in examinations and reports for underlying interests upon the character and condition of the construction and equipment of railway properties and of their value and earning capacity. This work comprised, among others, the valuation for the United States government of all of the bond-aided roads of the Union and Central Pacific railways, and for private parties examinations and reports were

made upon many important systems of railway west of the Mississippi river between Canada and Mexico.

Q. You entered into the employment of the Railroad & Warehouse Commission of the state of Minnesota upon what date?

A. January 15, 1906.

Q. And the particular purpose of your employment was the valuation of the railroad properties in the state of Minnesota, I believe?

A. It was.

Q. Since that time you have given your attention exclusively to that subject?

A. Entirely so.

Q. Mr. Morgan, will you please tell what you did for the purpose of making this valuation? What was the first step taken by you?

A. After I was appointed engineer for the Commission, it was, of course, desirable to know to what extent the Commission wished to proceed in the matter of detail in getting up this valuation, and after a number of conferences with the Commission and getting their ideas as to how complete they desired the work done, it was decided that it could not be done intelligently without the co-operation of the railway companies in furnishing data and information in respect to their properties, and in order that the railways might understand the purposes of the Commission it was decided to call a conference between the Commission and the representatives of the railways, and that at such conference an opportunity would be afforded the Commission to indicate to the railway companies what they proposed to do and to ascertain from them what they would be willing to do in co-operating with the Commission in carrying out the plan.

Q. Was such a conference held?

A. Yes; the conference was held in the office of the Commission on January 26, 1906, and at that meeting more than

ninety-five per cent of the railway mileage in Minnesota was represented by the general officers of the different companies.

Q. How long did the conference last?

A. Well, most of the morning was spent in discussing the subject. A general plan was submitted upon which the Commission desired to proceed, and after that was presented it was open to discussion, and there were some minor objections raised to certain things that were proposed; principally the objection of the railway companies was in respect to the period of time to be used in arriving at average prices for reproducing these roads. It was proposed to use a five-year period, but the railway companies thought that they would rather use the year 1905 as a basis of unit prices, and in deference to the wishes of the railway companies it was agreed that they could submit their reports upon that basis; but that the Commission or its engineer was not bound by the fact that they had used the year 1905, and that if it saw fit we could use a period of years as being a better index than an individual year.

Q. Was it announced by yourself and the Commission at that time that you would require a statement of all of the railroad properties from each railroad?

A. Yes.

Q. It was determined to require a statement of all of the railroad properties?

A. That was the general plan, yes.

Q. And state whether or not you prepared blanks upon which those properties were to be listed and the reports made.

A. I did.

Q. Now, have you got that in detail there, Mr. Morgan, in your notes, a statement concerning that?

A. Yes.

Q. Well, read it.

A. Well, prior to reading that, I would like to state that after this conference and the acquiescence on the part of the

railway companies to co-operate, the general plan was carried out by preparing blank forms upon which to record the physical elements, and there were, of course, certain instructions or suggestions, rather, that seemed desirable to embody in a letter of transmittal in sending out these blank forms to the railway companies for use. Now, I will read the letter of instructions that accompanied them. This is a copy of the letter of instructions that was sent to Mr. H. J. Horn, who was at that time general manager of the Northern Pacific Railway Company:

"The official announcement of the Railroad & Warehouse Commission of the state of Minnesota, dated January 22, 1906, and addressed to the managing officers of the respective railway companies whose lines are operated in this state, set forth briefly the intent of the Commission to appraise the value of railway property in the state of Minnesota, and invited a conference with the representatives of the railway companies to discuss matters pertaining to the work.

"The meeting of January 26, 1906, held in the capitol building in pursuance of this announcement and request, enabled the Commission to present to the railway companies the general plan upon which it desired to proceed, and to ask the co-operation of the companies in furnishing data, estimates of cost, and such other information and assistance as is deemed essential to the purposes of the Commission in carrying to a conclusion the investigation which has been undertaken by it.

"A general discussion of the plan of procedure presented to the railway companies, resulted in modifying the time period proposed to be used in determining the average prices of labor and material which form the basis upon which to estimate the cost of reproducing the railways complete with all appurtenances. As amended in this respect, it is as follows:

"GENERAL PLAN FOR ESTIMATING THE VALUE OF THE PHYSICAL PROPERTIES OF THE RAILWAY COMPANIES, MINNESOTA. BASIS.

"In estimating the value of the physical, real and personal properties of the railway companies in the state of Minnesota, an estimate of the cost of reproducing them new is deemed essential as the prime factor.

"In respect to real estate and construction, this prime estimate is to be made as though the existing railways were not constructed and that the regions through which they now extend were occupied as now, by the settlements, improvements and varied industries.

"The prime estimate of the cost of the construction and of the equipment of the railways new with all appurtenances, will be obtained by an average of the prices paid for labor, material, locomotives, cars, tools and other essential elements for the year ending December 31, 1905.

"The present value of the physical properties of the railways will be obtained by deducting from the cost of reproduction all deteriorations by time and use, on the date corresponding to that of the estimated cost of reproduction.

"Forms for the details of the foregoing and any other elements that may arise essential to the purposes of the Commission will be prepared from time to time and furnished to the railway companies.

"In arranging forms for recording the physical elements of the railways, they have been, so far as practicable, divided substantially to correspond to the usual departments, as follows:

Land & Right-of-Way,
Engineering,
Maintenance of Way,
Bridge and Building,
Motive Power and Machinery,

Car Department,
Signal Department,
Telegraph Department.

"It has been found impracticable to attempt to itemize under specific headings all of the various kinds of physical property belonging to the railway companies. The detail forms, 1 to 28, as adopted by the Commission, cover the more important items. Such property as is not provided for on the detail sheets may be conveniently included on the Section Appraisal Sheet, form 50.

"To facilitate the work of verification, it is desired that the estimation of the various lines of railway be divided generally into sections of about 100 miles each, but for branch lines these sections may be more or less than 100 miles, according to circumstances which may reasonably govern as to conditions and convenience in the work.

"It is very important that all of the departments mentioned should understand alike the subdivision of the lines into sections, to the end that each set of forms may contain information pertaining only to that particular section of the line. This is essential to enable the compilations on forms 50 and 51 for each section to be uniform and readily made.

"It is very desirable that the lines and properties in the cities of St. Paul, Minneapolis and Duluth be treated as independent sections, and in arranging subdivisions of the lines it may be also found desirable that other cities be shown as independent sections.

"Attention is called to forms 25, 26, 27 and 28, covering motive power and rolling stock. These items will be compiled irrespective of the sectional divisions into which the lines may be divided, and for interstate railways will be apportioned to this state on an engine and car mileage basis, except where some other basis for the division of these items may be found more equitable in arriving at an accurate assignment to Min-

"In respect to motive power on interstate railways, it is probable that the regular assignment of power to the respective operating divisions will enable convenient apportionment to be made to Minnesota, taking into account the cost of reproducing all locomotives operated within the state and adding thereto the cost of reproducing all other locomotives that are operated partly within and without the limits of the state, in the proportion that the mileage of such engines in Minnesota bears to their total mileage on the operating division.

"In determining the present value of the physical properties in Minnesota, no instructions are given as to how the percentages of depreciation shall be arrived at. In making the returns, however, it is desirable that information in respect to the methods used be given in sufficient detail to enable ready and intelligent verification by the engineer of the Commission.

"In conformity with the foregoing, I send to you, under separate cover, a supply of blank forms for use in recording and appraising the physical elements of your lines in Minnesota. If found to be insufficient for the needs of your company, additional blanks will be furnished on application.

"It is the expressed wish of the Commission that your report be received as soon as practicable, and in order to facilitate my work I will be very glad to receive in advance, detail sheets Nos. 16, 18, 19, 20 and 21, at any time feasible for you to forward them.

"In your acknowledgement will you kindly state the time, approximately, when I may expect to receive the report of your company?

(Signed) Dwight C. Morgan, Engineer."

Q. Did the blanks upon which the reports were to be made accompany this letter?

A. They did.

Q. Have you got a set of those blanks?

A. I have.

Witness produces blanks.

Q. Now, Mr. Morgan, will you please take the blank and explain it, sheet by sheet, that is, what it refers to.

A. Form No. 1 covers Lands for Right-of-Way, Yards and Terminals, in which opportunity is afforded to show the location of the various properties owned by each company and the various widths of right-of-way and the number of miles of each particular width, and the total acres, and the average market value of those lands and the average right-of-way value, showing separately the lands for yards and terminals and its average market value and railroad value.

Q. The last column for "Remarks," is average value for railroad purposes per acre?

A. Yes.

Q. And the column preceding that is "Average market value per acre"?

A. Yes.

Q. That blank was prepared and the report called for upon the assumption that there may be a difference between the market or true value and the railway value, the value for railway purposes?

A. On the cost of reproduction.

Q. Basing that on the cost of reproduction?

A. Yes, sir.

Q. Now, the next page?

A. Form 1-A was prepared subsequently, and was, I think, not furnished to the railway companies. Form 2 was prepared because it enabled a better description of the terminal properties than could be shown on Form 1, which was somewhat congested for that purpose, so we prepared Form 2, which would show the index of our terminal maps. For example, this (indicating), is one of the terminal maps and the first column will show the location of it, and the section of that map according

to the division, and then the description of the property, the total acres owned and the market value, and the average right-of-way value.

Q. Form 1-A, then, was never furnished to the railway companies and never filled out by them?

A. Never filled out by them.

Q. That was one filled out by you?

A. We used that here in our own work. Now, Form 2 is a part of the roadway report, in which provision is made to record the location, by engineer's stations or otherwise, of the clearing and grubbing, of the grading quantities, whether it be of earth, loose rock or solid rock; of the protection work, such as rip-rap, dry walls, mortar walls, concrete walls, etc.; cross-ties, naming the dimensions and the kind of timber, and the number of each and their condition; switch-ties, the number of board, feet measure, per set and the kind of timber, the number of sets, etc. Form 3, also a part of the roadway report, in which provision is made to show the ballasting, giving its location, miles, kind of material, width at the crown, the average depth under tie and the condition; and rails—provision is made for the location, the time of service in years, the number of miles of rail laid that was new when it was put down and the number of miles of rail that was relaying rail when it was laid, or second quality rail; then, in the various columns, provision is made for various weights of rail, such as is encountered on all the roads of the state, different weight of rail.

The MASTER: What do you mean by "condition percent"?

WITNESS: Well, that "condition percent" is supposed to cover the amount of wear that is left in the element below its new condition.

The MASTER: That is, it shows the percent of the new rail or tie, or whatever may be the case?

WITNESS: Yes.

The MASTER: In good order?

WITNESS: Yes.

Q. Now, won't you just take the report of the Northern Pacific, turn to that page, and see what the report was upon that question? Have you got the report of the Northern Pacific here?

A. Yes. The Northern Pacific Company did not show any percentages in their report.

Mr. BUTLER: That is, any condition percent?

WITNESS: Condition percent. But, in making up my own, we have changed, of course, the word "condition percent" to "value percent," because "condition percent" does not always—sometimes it does, and sometimes it does not—reflect value percent; because, when a rail, for example, is worn out, it still has a value attached to it; a rail that has been in service for a number of years until it is no longer fit for the standards and requirements in the main track, is removed; perhaps it is put on a branch line, where it serves for a period of years, or goes into a side-track, but at the end of its period of usefulness, whenever that may be, it still possesses a scrap value. Now, that rail is sold and produces something, so that in the case of Rail, "value percent" is not the same as "condition percent." But in the case of a tie, when a tie is gone, it has no value; it is taken out on the right-of-way and burnt up, so that in that case, "Value percent" and "condition percent" are the same.

The MASTER: I assume this testimony probably will be used in the Minneapolis & St. Louis case and in all of the cases as far as it is applicable?

Mr. O'BRIEN: Well, I hope so. We will be very glad to have it.

The MASTER: Did any of the roads furnish you with "condition percent"?

WITNESS: Some of them did.

Mr. BUTLER: Before we proceed with that—The use of the testimony in other cases not commenced, certainly, and where

there has been no opportunity afforded the representatives of the companies to see what Mr. Morgan's conclusions have been (and that I think is true with respect to all of the companies except the Northern Pacific and the Minneapolis & St. Louis) we do not desire to have any concession made with respect to the use of it. We want to see what it is.

The MASTER: That is all right. I assumed that much of this must be applicable to all the cases that might be tried, but of course there might be portions that would not.

Mr. O'BRIEN: There was no suggestion made that there was any stipulation or agreement as to that. I expressed the hope that when we got through this preliminary explanatory testimony we would not have to go through it again in each case.

The MASTER: Well, I conceived that it must be applicable to all the cases up to a certain point. Proceed.

WITNESS: Form 4 is also a part of the roadway report, in which provision is made for track fastenings, such as angle-bars, fish-plates, bolts, nuts, locks, spikes, tie-plates and rail-braces. In Form 5 provision is made for split-switches, stub-switches, switch-stands, switch lamps, rigid frogs, spring rail frogs, guard-rails, and railroad crossings. Under the head of each, sufficient detail is given to enable an intelligent understanding of what each article is that is described. Form 6, Bridges—which include the truss bridges, plate girder bridges, eye-beams and draw-spans, indicating the power used for operating draw spans. That form is divided into two parts, the first showing the substructure and the character of the construction of it and the superstructure and the character and construction of it. Form 7, Pile Bridges and Timber Trestles, which also includes timber over-head highway bridges, erected at the expense of the railway company, a general description of this class of structure is provided in the form. Form 8, Culverts, which includes all arch, box, cast-iron, or vitrified pipe culverts, stone, concrete or wood. Form 9, Track and

Bridge Tools, showing the tools regularly assigned to the sections and to the bridge crews; an opportunity is provided in which an average list of the tools comprised in one set can be shown. Form 10, Fences, Cattle-guards and Signs, shows various kinds of fence, snow-fence and cattle-guards, and the highway crossings, planking, etc., and the miscellaneous roadway signs which are found along the right-of-way of each railway. Form 11, Stock-yards and Appurtenances, showing the dimensions of the yards, the water-supply and power and scales. Form 12, Water Stations, showing the source of supply of water, dimensions of the pump-house, kind of power used, the pumps, water-tank, and water cranes. Form 13, Coal Stations, in which provision is made to show the standard types of coaling stations and the special appliances for hoisting and conveying that some lines have. Form 14, Station Buildings and Fixtures, showing the buildings, the dimensions and general description and the equipment of the building in the way of furniture and settees, and the platforms and various materials of which they are constructed. Form 15, Miscellaneous Buildings, this includes the general office buildings, warehouses, elevators, and all other buildings not specifically called for elsewhere. That provides for the location, dimensions and general description, cost of reproduction, etc. Form 16, Engine Houses and Turntables, shows the location, dimensions of the engine houses, the heating facilities, turntables and turntable pits Form 17, Cinder-pits and Track-scales, showing cinder-pits and hoist and the scales in detail. Form 18, Steam and Electric Power Plants and Gas Plants, which also includes all shafting, belting, motors, etc., operated from a central plant. Provision is made for the dimensions of the building, a general description of the power equipment and cost of reproduction, etc. Form 19, General Repair Shops, provision is made for the dimensions of the building, the character of the construction and the general description and purposes for which each building

is used, together with the cost of reproduction. Form 20, Shop Machinery and Tools, which is shown separately by buildings in which they are located, gives the name of the machine, the name of the makers, its age and cost of reproduction and condition percent. No. 21, Docks and Wharves, with or without coal or handling equipment. Provision is made for the location, dimensions, character of the foundations and of the superstructure for handling coal or ore and cost of reproduction of the complete plant. Form 22, Interlocking Plants, which covers all of the essential details of an interlocking plant, the number of the working levers and size of the tower-house. Form 23, Signal Apparatus, which includes the train order and manual block signals that are operated in conjunction with telegraph, and automatic block signals and distance switch signals, and electric bells for highway crossing protection. Form 24, Telegraph, Telephone Lines and Appurtenances. In this case instructions were given as follows: "In case the lines are not owned, only show such equipment as actually belongs to the railway company." That provision was made in there because the telegraph companies in themselves own most of the lines, and the contracts, of course, are different for different companies as to their maintenance etc., but the idea was only to show what belonged to the railway companies. Form 25, Locomotives, in which all of the necessary details are provided to get an intelligent understanding of the character of power, individually and collectively. Form 26, Passenger Equipment, is prepared in the same way that Form 25 is for locomotives. Form 27, Freight-car Equipment, is also prepared along the same general lines, showing the serial numbers, capacity and cost of reproduction, etc. Form 28, Miscellaneous Equipment, which includes snow-plows, flangers, steam-shovels, pile-drivers, derrick cars, dredges and all special equipment that is located or used in Minnesota. Form 50. The plan was that the details which are shown here on these

various forms 1 to 28, for identification, could be drawn off briefly on Form 50, which would show the cost of reproduction and the present value of each item entering into the details. Of course it could be abridged much more on this form 50 than it can on the details; and it also made provision for showing certain things that might be owned by the railway company for which we could prepare no special forms. Form 51 is the final summary sheet, in which the various items are shown, drawn from the detail sheets and from form 50, and is the shape in which the valuation is finally brought to a finish.

Q. I understand that those forms were designed and prepared by you and under your direction, Mr. Morgan?

A. They were.

Q. And what length of time was occupied by you in designing and preparing these blank forms?

A. Well, I think I got out on an average of about one a day; about thirty days, I should say. The meeting with the Commission was held on the 26th of January, and I went right to work to prepare these forms and get them in shape to get them in the hands of the printer, and on the 12th day of March, sixty thousand of them were delivered and on the same date they were sent out to the railway companies, in sufficient quantities to enable them to proceed with the work.

Q. These forms were sent to each of the railroad companies?

A. Yes, sir.

Q. And each of the railroad companies reported upon those forms?

A. Yes.

Q. With greater or less detail?

A. With the single exception of the Chicago, Milwaukee & St. Paul. They saw fit to use their own forms; the others used our forms.

Q. When the reports were made to you, state whether or not you entered upon the work of verifying the items of prop-

erty shown in the respective reports?

A. Yes; in the letter of instructions, or suggestions rather, that was sent out to the railway companies, I asked for certain forms first. I think form 16 was one, engine-houses and turntables, cinder-pits and track-scales, steam and electric power plants and gas plants, general repair shops, shop machinery and tools. I asked to have this information furnished in advance so that I could go out and make my examination of these various things that would be reported on these forms. I got, in advance, the report of the Northern Pacific in respect to the shops at Brainerd, at Como and at Staples; and I immediately went to those points and spent sufficient time to check the inventories as they had been furnished.

Q. Well, without reference to the exact time, Mr. Morgan, I desire you to state generally whether, as you received the reports from the various railroad companies, you checked the possession of the property by the railroad companies described in the report, verified it.

A. That was done. The verification was really made when we entered upon the examination.

Q. Well, at any time it was done, was it during the course of your work you verified the possession of the property?

A. Yes.

Q. And did you verify, in the same way, the number of yards of material in various fills and embankments?

A. Yes.

Q. In other words, before attempting to place a value upon any of the property or rights described in these various reports, you verified the existence of such property?

A. I did. We called on the railway companies for profiles of their lines, and as soon as the detailed examination was made of the property and I had a thorough knowledge of the standards of construction and knew what basis upon which the calculation should be made, the profiles of the line were placed

in the hands of some of my assistants, and the quantities on the entire Northern Pacific line were computed for the purpose of checking the return that the railway company had made as to the various quantities on the different sections into which the line had been divided.

Q. In case your measurements or your investigations resulted in a different conclusion as to quantities, in the case of grades, what did you do?

A. Well, I took it up with the railway companies in an effort to see what the reason was for the differences. Before doing so, we had gone over our own work carefully to see that the mistake was not upon our own part, and then submitted the matter to the railway companies, indicating to them, in such cases in which differences existed, just what those differences were. And there were a great many cases where differences were found. No particular road might be taken as an exception. We found them in nearly all, and an effort was made to adjust them, and in the majority of cases the railway companies were disposed to be entirely fair about the matter and in an effort to reach common ground in respect to various things that were being investigated and upon which there was a difference.

Q. So far as you know, Mr. Morgan, are the quantities number of articles of equipment, or the number of acres of real estate, at this time in dispute between yourself and the officers of the Northern Pacific Railway Company?

A. Well, I think not to any considerable extent. We have reached common ground in respect to most of them.

Q. I expect to go into that more fully later, but I wanted to ask you the general question at this time, whether, as you understand, there is any dispute as to acreage or quantities or articles of equipment.

A. No; not as of the date of June 30, 1907, which is the date of my report.

Q. The report made by the Northern Pacific Railway Company upon these blanks gave the values as of what date?

A. June 30, 1906, I believe.

Q. In arriving at your values, what date was assumed by you?

A. In arriving at my values?

Q. Yes.

A. Well, my report is dated for June 30, 1907. Are you speaking of my unit values, as to what date I used for them?

Q. Yes.

A. My unit values are for the year 1905, the same as those used by the railway companies. The year 1905 represents about as near an average of cost for a five-year period, from 1902 to 1907 (which latter is the date of my report)—the year 1905 represents about as near an average of the units of cost as could be obtained by going into the refinements of trying to establish an average, so that it was decided to take the prices for 1905 as representing fair, average prices for five years.

Q. Will you be good enough to describe what you mean when you use the term "units of cost"?

A. Well, units of cost, for example, steel rails are bought by the ton; the unit of cost would be, in that case, the cost per ton. Ties are bought by the piece, and the unit of price would be the cost of the individual tie. Steel bridges are purchased by the pound or by the ton, so that in that way we get the units of price for not only items of that character but we also have the units of price for labor, so much per day for labor.

Q. You mean that the steel in the bridge is purchased by the ton?

A. Yes.

Q. So that you ascertain the number of tons?

A. I ascertain the number of tons of steel.

Q. And the price per ton of steel, 1905—

A. Yes.

Q. —and arrive at the value of the steel in the bridge in that manner?

A. That is right.

Q. And then you add to that what?

A. Well, of course, we add to that the transportation cost, the cost of erection; all of those things are taken into account, so that the structure erected represents, as near as may be practicable, what it would cost to reproduce it.

Q. You said that in estimating the cost of a steel bridge you took the price of the steel per ton; of course, to that must be added the cost of erection, including labor—

A. Yes.

Q. —and other materials used—

A. Yes.

Q. —transportation—

A. Yes.

Q. —and every cost that would enter into the cost of the construction of the bridge.

A. Yes.

Q. In the case of equipment—locomotives, for instance—what are the units in the case of a locomotive?

A. By the pound; by the pound considering the engine, exclusive of the tender; that is, the total weight of the engine exclusive of the tender, reduced to pounds; so that the determination of the cost of reproducing locomotives would be on the pound basis; and our forms for that purpose provide for the weights of the various classes of engines from which we can determine the cost of reproducing them by multiplying those weights by the units of cost.

Q. Do I understand that that is the method by which locomotives are actually sold?

A. I never have bought any locomotives, and all I can say is this: That in talking with representatives of the locomotive companies they didn't seem to be embarrassed in the slight-

est when I talked to them of the cost of locomotives per pound. They had in their pockets all of the data on the pound basis. So that I have a right to assume that that is an intelligent basis upon which to consider locomotives, because locomotives vary in weight, and we can tell very quickly, from a unit of that kind, what the cost of a locomotive is going to be if we know what its weight is; I don't know of a more convenient unit to apply than that.

Q. Now, what with regard to cars, both freight and passenger?

A. Freight cars are divided into different parts, but they are usually considered as a whole. As I say, they are divided into different parts by the Master Carbuilders Association, such as the body of the car and the trucks, etc., to which certain persons are assigned under the Master Carbuilders' rules; but freight cars and passenger cars are considered as a whole, representing individual prices, of course, according to the character of their construction.

Q. In the construction of grades, what is the method?

A. The unit of cost on construction of roadway of a railroad grade is the cubic yard.

Q. Of material?

A. Of material moved,—measured in excavation, usually.

Q. The material moved from the excavation constitutes the embankment outside of the excavation, usually, does it not?

A. That is the aim most always of an engineer, to make his quantities of excavation and embankment balance; but with more modern methods of railroading, where grades are reduced to a minimum, it sometimes is very difficult to do that, and oftentimes your excavation may be in excess of your embankment and you would have a certain amount of waste, which would, of course, have to be paid for; and, on the other hand, you would have the reverse of that proposition, where the embankment was far in excess of the material available that comes from

the excavation on the line and you have to borrow.

Q. But in no case should the excavation and the embankment be both measured and added?

A. No, not unless you make a corresponding modification in the prices.

Q. Now, having taken for the units the price of 1905, what do you mean by saying that your valuation is of June 30, 1907?

A. Well, I meant that the prices for 1905 were a fair average of the five-year period from 1902 to 1907, the date of my report; and what I was seeking to do was to get away from the extremely high or extremely low—I can't say extremely low, because the prices from 1902 to 1905 have been higher than at any period in the history of railway construction; so that the prices for 1905 represented a fair average of the five years, but those five years were higher than they have been at any time in the history of railway construction. Now, in making that statement, I am speaking in general terms. For example, there might be this exception: Steel rails, thirty or forty years ago, cost a great deal more money, but to compensate for that, crossties could be bought for probably twenty-five per cent of what they could be bought for today, so that in speaking of prices for 1905 as representing the average of a five-year period, which we have sought in this work, they are higher in a general way than any other five-year period that might be taken.

Q. You spoke of steel rails being much higher many years ago; is it not true that the number of yards formerly which included a certain weight was much greater than the number of yards which would include the same weight under present conditions?

A. Yes, that is true.

Q. I wish you would explain that.

A. The rail that was bought in the early development of railroads in Minnesota cost from $85 to probably more than $100 a ton, delivered here, but the weight of that rail per yard

probably did not exceed 50 or 56 pounds; some of it was less than that, down to 40 or 45 pounds, some perhaps less than that. Now, rail of that weight would lay nearly twice as much track per ton as rail of the section and weight that we have to purchase today that weighs twice as much as this light rail that was laid in the first place; so that the early rail, while it cost twice as much, laid nearly twice as much track.

Q. Now, Mr. Morgan, that has always been a little difficult for me to understand, and I wish you would give us an illustration of that. For instance, what is known as a 50-pound rail is a rail a yard of which weighs 50 pounds, is it?

A. Yes, 50 pounds to the yard.

Q. A ton of rails of that character would extend, a single rail, how many yards?

A. Perhaps you had better let me treat this on the basis of a mile, which is a good unit.

Q. Very well.

A. A 45-pound rail requires 70.71 tons to lay one mile of track; a 90-pound rail requires 141.43 tons to lay a mile of track, or about twice as many tons per mile for the modern rail as was required for the rail originally laid on many of the railways; so that if the cost per ton, in the first place, was several times greater than the cost per ton today, there would be compensation for that additional cost in the fact that it lays practically twice as much track.

Q. I will ask you whether or not you applied the same methods for the purpose of ascertaining the value of the respective holdings of each of these companies.

A. The same general plan has been followed out in respect to the appraisal of all of the railroads of the state.

Q. So that the testimony which you have given now, except in such instances as you have specified a particular railroad, applies to all of the work that you did in arriving at the valuation of the properties?

A. Yes, with this understanding, that each road was given individual consideration. For example, because it would cost the Northern Pacific Company to reproduce some of its lands in the Red River valley a small amount of money and in some other parts of its line much more, we did not take the average of those different parts of the line, but each individual part of the Northern Pacific road was considered separately. It was divided into twenty-one different parts in the report that they furnished to me and we held to those same sections and considered the property in twenty-one individual sections. That same plan has been pursued with respect to all of the other lines of the state. I think the Great Northern had some forty-two or forty-three sections into which their line was divided; and so the lines were divided up into small sections so that they could be treated intelligently in respect to each one.

Q. So that when we describe the procedure and method followed by you in coming to a conclusion as to the value of the holdings of one company we will have described the procedure and method followed by you in each of the companies.

A. That is correct.

Q. Except that the holdings of each company were considered separately, item by item, and independently, as you have described?

A. That is correct.

Q. Mr. Morgan, I understand that your estimate of the value of the holdings of the Northern Pacific Railway Company, which we are about to examine is the value of that property upon June 30, 1907, as the property existed upon that date, and that in coming to a conclusion as to that value you have used the unit prices prevailing during the year 1905, those prices being, as you have stated, a fair average of the unit prices prevailing from 1902 up to June 30, 1907?

A. That is correct, with the exception that you are using there the word "value." Now, my estimate is "cost of repro-

duction." And there may be, probably is, quite a distinction in the term "value" according to different interpretations; and that was the basis, as you have stated it, for the cost of reproduction.

The MASTER: So that, when you speak of value here, generally, you mean cost of reproduction?

WITNESS: That is the idea.

Q. Do you mean the cost of reproduction new?

A. Yes.

Q. I now ask you to turn to the report of the Northern Pacific Railway Company, made to you under the circumstances that you have described, and ask you to produce that portion of the report giving the lands, right-of-way and terminals of the Northern Pacific Railway Company.

A. This is the report of the Northern Pacific, according to the sections into which the line was divided for the purposes of this appraisal, twenty-one sections in all.

Q. This entire bundle of papers is the Northern Pacific report?

A. Yes, sir.

Mr. BUTLER: And comprise, on your form numbers, what? Are they all on the same form numbers?

WITNESS: Yes.

Mr. BUTLER: Form No. 1?

WITNESS: Each section complete in itself.

Q. The Northern Pacific property in Minnesota was divided into twenty-one sections?

A. It was.

Q. And you have here twenty-one books?

A. Yes.

Q. Each of those books is complete as to that section, in itself?

A. It is, except with respect to the equipment, which of course could not be assigned to the individual sections but had

to be considered, for the property in Minnesota, as a whole.

Q. Now, so that we can understand it, take Book 1, the first sheet, and show us; does that refer to section 1?

A. Yes.

Q. Now, what sheets?

A. Northern Pacific section No. 1, which extends from Duluth to the west leg of the Y of West Superior branch, including Y to the center of the draw-span. There is a map of the Northern Pacific that will show that section (showing to the Master). Section No. 2, from the first head-block south of the Soo crossing at Bald Eagle, to the west head-block at Carlton, and from the east head-block at Carlton to the west head-block of the west Y at Superior branch. Carlton yards is section 4. Section 5, from Cloquet to Carlton, including the Y at Carlton. Section No. 6, from Groningin to Banning, including the Y at Groningin. Section 7, from Rush City to the St. Croix river bridge, including the Y at Rush City. Section 8, from Wyoming to Taylors Falls, including the Y at Wyoming. Section 9, from White Bear to Stillwater. Section 10, is from the state line on the east to the east head-block at Carlton, and from the west head-block at Carlton to the east head-block at Staples. The term "head-block," as given here, means a switch, the outlying switch. Section 11, from St. Paul to the first head-block south of the Soo crossing at Bald Eagle. Section 12, from St. Paul to Minneapolis, which comprises lines A and B. Line B, as I recall, goes through the union depot and crosses the river north again; line A goes straight through to Northtown Junction. Both those lines are included in that. Northern Pacific section No. 13, is from Minneapolis to White Bear; that is the old St. Paul & Duluth line that ran across. Section No. 14, from Minneapolis to the south head-block of the Y at Staples. Section No. 15, from the north head-block of the Y on the old line at Little Falls to the south head-block of the Y at Brainerd. Section 16, from the west head-block at Little

Falls, on the new line to Morris. Section 17, from the east head-block and the south head-block at Staples to the center of the Red river at Moorhead. Section 18, Wadena Junction to Breckenridge. Section 19, from the north head-block of the Y at Winnipeg Junction to the center of the Red river at East Grand Forks. Section 20 is from Fertile to Carthage *via* Red Lake Falls. Section 21, from Key West to Sherack, including the Y at Key West. That is known as the Keystone spur, it just runs up a little piece here, just a very small line, into the wheat-fields.

Q. Now, please describe the contents of the first book comprising Section 1.

A. Section 1, as reported by the Northern Pacific Company, contains form 1, in which the lands for right-of-way, yards and terminals are listed, together with their cost of reproduction. Form 2, road-way report, showing the grading quantities, clearing and grubbing, protection work, cross-ties, switch-ties. Form 3, ballasting and rails. Form 4, track-fastenings. Form 5, additional roadway items, frogs, switches, etc. This also shows certain joint tracks, in which the Northern Pacific is interested, in different proportions of ownership, with other companies, on joint tracks to industries. Form 6, bridges. Form 7, pile bridges and timber trestles. Form 8, culverts. Form 9, track and bridge tools. Form 10, fences, cattle-guards and signs. Form 11, stockyards and appurtenances. Form 12, water stations. Form 13, coal stations. Form 14, station buildings and fixtures. Form 15, miscellaneous buildings. Form 16, engine houses and turn-tables. Form 17, cinder-pits and track-scales. Form 18, steam and electric power plants and gas plants. Form 19, general repair shops. Form 20, shop machinery and tools. Form 21, docks and wharves. Form 22, interlocking plants. Form 23, signal apparatus. Form 24, telegraph, telephone lines and appurtenances. Now, the balance of the forms comprise the equipment, which has been furnished under en-

tirely separate and summarized statements.

Q. Now, you are using your word equipment there as rolling stock—

A. Well, motive power.

Q. —cars and locomotives?

A. Cars and locomotives; miscellaneous equipment, consisting of snow-plows, etc.

Q. Such equipment as shop tools and so forth?

A. Well, I am speaking now of rolling equipment.

Q. That is what I want to get clear. In these separate books, each comprising a section, there is included such equipment as shop tools and machinery and machine shops?

A. Yes, where such sections have those things.

Q. Yes, of course. But the rolling stock is included in another book, is it?

A. Yes, sir.

Q. And what is that numbered?

A. That is not numbered, but it is listed under the head of "Locomotives, passenger equipment, freight car equipment, miscellaneous equipment."

Q. So that the Northern Pacific report comprises twenty-five volumes as you have these volumes made up?

A. Yes.

Q. Twenty-one referring to twenty-one separate sections?

A. Yes.

Q. And four referring to equipment?

A. Yes.

The MASTER: Covering all the sections?

WITNESS: Yes.

Q. The rolling stock is not divided by sections?

A. No.

Q. And when you speak of the four volumes covering equipment, you mean equipment consisting of rolling stock?

A. That is correct.

Q. I suppose, technically, that shop machinery and tools come under the head of equipment, do they not?

A. Well, that is stationary machinery. That is provided for elsewhere in the form.

Q. I simply want to have the Master understand how it was arranged.

A. Yes.

Q. Please turn to the book or volume No. 1, section 1. What portion of the road does that refer to?

A. That is the west leg of the Y, West Superior branch, including the Y to the center of the draw-span in Duluth.

Q. Form 1 contains a list of real estate?

A. Yes.

Q. What did you do for the purpose of verifying the number of acres of such real estate as appears within that section?

A. Mr. Cooper, Land Commissioner of the Northern Pacific road, furnished very complete maps of the properties owned by the Northern Pacific Company in the city of Duluth, and these maps were taken and the data that had been compiled in Mr. Cooper's office was gone over, in respect to the areas shown, so that we checked the areas of lands owned by the Northern Pacific Company from our own computations. In some cases we found differences in the areas, and wherever we did find differences that made it necessary for us to take it up with Mr. Cooper we did so, in an effort to adjust it and reach common ground in respect to the property that they did own.

Q. And did you reach that common ground?

A. We did, I believe, in most all cases.

Q. When you say that common ground was reached by you, what evidence have you of that fact? Was the report corrected in any way?

A. Yes, the report was corrected. Perhaps not on this particular section, although it may have been. There were a great many details to go through here. For example, the Northern

Pacific owns some property in Duluth that they failed to report. It was property that was owned jointly with the Omaha Company; and we called their attention to that, that they might correct their own report and bring into account all of the property that they either owned wholly or partially or had a partial interest in; and, on the other hand, they had some property in Duluth that I think was reported by mistake. Before answering that question any further, Mr. O'Brien, I should like to have an opportunity to look this over and get fully familiar with it again. Duluth has not given us so much trouble as some of the other cities, and, therefore, having laid this by, some time ago, if we would select perhaps some other point, I would be more familiar with it, but I can be familiar with this after lunch so I can answer it.

The MASTER: The hour for recess has come.

Recess until 2 P. M.

AFTERNOON SESSION.

Last question read.

A. Common ground was reached in respect to the area of the lands, through telephone communication, sometimes, mostly by letter, in which we outlined to Mr. Cooper, Land Commissioner of the Northern Pacific Railway Company, wherein we found differences as between the areas returned by them and the computations made under my direction. Mr. Cooper has, in most cases, replied (in all cases, in fact) to those communications, and I think, without exception, they have been willing to concede the changes, which were both ways. For example, on section 1 (in Duluth) we found that the Northern Pacific Company had left out some lands that were owned jointly; we also found that they had included some lands in their estimate that were entirely in the state of Wisconsin. That was due to the fact that the boundary line was probably not clearly defined as between Minnesota and Wisconsin. And in that way, some 380,000 square feet, or about eight and a half or nine acres,

was included that was subsequently taken out after we had the government charts and determined the boundary line between the states.

Q. Were there any other corrections made with regard to section 1?

A. That is all that was made on section 1.

Q. In the total area given by Mr. Cooper in his testimony in this hearing, he stated the area in section 1 as found by you; that is, you and Mr. Cooper now agree upon the total area in section 1, as I understand it?

A. No, I think not. The reason for the difference is that section three of the Northern Pacific, which is the Fond du Lac branch extending from West End, and part of the section is within the city limits of Duluth, and we were considering the Northern Pacific properties within the city of Duluth entirely independent from those outside, and, therefore, in making up our report, or my report on the Northern Pacific, it includes acreage that Mr. Cooper's report did not contain, in the first place, as belonging to section one; but section three, as he has considered it and as we considered it, is all right in itself excepting that we have transferred from section three to section one all of the lands in section three that were within the city limits.

Q. Then the total area, as contained in sections one and three, have been agreed upon between Mr. Cooper and yourself?

A. That is correct.

Q. What I want you to do, Mr. Morgan, is to explain to the Master, as we go along, how you did this work, and, where you found any errors in the report of the Railway Company, what you did, no matter whether that error resulted in decreasing or increasing the value of the railroad property. As I understand, your testimony is that you immediately took that up with the proper officer of the Company and reached common ground;

is that right?

A. That is correct.

Q. And did you plat the property reported in section one?

A. We had furnished us, by the Northern Pacific Railway Company, detailed plats that showed all of the property owned by them in the city of Duluth. Those plats were on a scale of 100 feet to the inch, and they were placed in the hands of my assistants for the purpose of checking the areas of the lands as they had been colored on the maps, it being perfectly right to presume that, as a whole, the Northern Pacific would return only such property as it did own.

Q. Have you that plat?

A. Some of those plats are here. I have one that will illustrate. This is one of the maps furnished by the Northern Pacific Railway Company (exhibiting long colored map) in its appraisal of its properties in Minnesota, showing the right-of-way owned in a certain section or part of the city of Duluth. This happens to be in the vicinity of Grassy Point, and this section of right-of-way from the draw-bridge to here (pointing) is the part that I spoke of as having been excluded because it is not in the state of Minnesota, but in the state of Wisconsin, the state line passing through the center of the draw. Now, maps similar to this were furnished in respect to all of the property that they own in the city of Duluth and were very complete in every way.

Q. Now, as I am more familiar with the work done by you in that portion of the terminals located at St. Paul, I wish you would turn to the section covering that portion of the work. Section 11, is it?

A. Section 12. It is really the Twin City terminals; it comprises both St. Paul and Minneapolis.

Q. And what is the total area in that section?

A. In the city of St. Paul the Northern Pacific Company owns 612.92 acres of land that is included in this appraisal;

in the city of Minneapolis 267.56 acres. That is property owned exclusively by the Northern Pacific Railway Company.

Q. Now, when you received the report contained in volume 12 of this document, what did you do?

A. In addition to the statements that were furnished showing the property owned, the Northern Pacific Company furnished detail maps showing the location of all of this property, and that was numbered, or lettered, rather, by tracts, so that it was shown just what each separate piece of property was, and those maps were taken and the areas were computed by my assistants, to determine the accuracy with which the areas had been returned by the Northern Pacific Company. There were some differences, which were finally adjusted; some omissions. After having settled upon the areas of the lands, it became necessary to determine what it would cost to reproduce them, and investigations were started with that end in view. We had, in addition to the maps that were furnished by the Northern Pacific, a complete set of maps of the cities of St. Paul and Minneapolis, that had been prepared under the direction of the Commission prior to my taking charge of this work, and which showed the terminal property of each of the railway companies in the Twin Cities. For the city of St. Paul there were twenty-four maps that covered the city of St. Paul; each of those squares represents the area in the city that is covered by each map (exhibiting map) and each map was, as you see on the wall (indicating a large 100-foot scale map), showing the terminals of the railways. The city of Minneapolis is on the reverse side of that (map). And the maps were arranged in the same way for the city of Minneapolis.

Q. The small map which you have just exhibited to the Master is what you call the key?

A. That is the key to the large terminal properties of the Twin Cities.

Q. How were the large maps, showing the Northern Pacific

terminals, numbered?

A. These maps were not numbered with respect to the terminals of any particular railway, but they were numbered more particularly with reference to their continuity and convenience, so far as getting up a scheme of maps showing the terminals of each city, so that one map might show terminal property that is owned by several railway companies. For example, here is a map (pointing to map on wall), No. 15; this property through there, and part of this property through here, is owned by the Northern Pacific. This property (pointing) through here is owned by the Omaha. In getting at the value or cost of reproducing the terminal properties, we proceeded upon what is known as the assessment basis for determining the value of lands; that was the base. The line was divided, as in this case (pointing to wall map); here is Forest street; here is Greenbrier avenue; all of the property between those streets and between Wells street and Deavey street was considered. We went to the office of the Assessor and got the assessed value on all of that property, and so we did with respect to all of the sections through which the railway companies owned property. We had as a basis to work upon a special investigation that was made by a committee appointed by the city council to investigate the relation of taxes to true value or the assessment on property in the city of St. Paul, and I think they made their report about February, 1907.

Q. Mr. Morgan, I wish you would let that wait for a little while till we go through the routine a little more. I wish you would take map 12—that, I think, is Northern Pacific property.

Witness produces map on wall.

Q. Now, will you please indicate (giving some data that appears on the map and avoid saying "here" and "there" as much as possible, because that doesn't appear in the record) the location of the Northern Pacific right-of-way upon map 12?

A. The Northern Pacific right-of-way on map 12 has been divided into five sections. In a general way, this property lies between Gaultier street on the east, Cottage street on the north, and extending westerly to Dale street; thence from Dale street westerly to Victoria street, lying mostly north of Como avenue.

Q. And that property of the Northern Pacific shown upon map 12 represents a strip of land how wide?

A. 200 feet wide.

Q. And how long?

A. About a mile and a quarter long.

Q. 200 feet wide and about a mile and a quarter long?

A. Yes, sir.

Q. It extends through a platted portion of the city, to a great extent, does it not?

A. To a certain extent. Some of it is in the nature of outlying lots that haven't been subdivided into the smallest divisions that you find city property divided into.

Q. State whether or not you ascertained the value, for taxation, placed upon each subdivision of land through which this right-of-way passes.

A. I did.

Q. And to what extent upon each side of the right-of-way?

A. The distance we went on either side of the right-of-way is indicated by the colored sections. For example, in section 1, we took into account all property between Carbon street and Cottage street.

Q. And what is that distance?

A. It must be nearly a quarter of a mile.

Q. Well, go on.

A. In section 2, we took in property between Maryland street and Cottage street.

Q. And what is that distance?

A. A quarter of a mile.

Q. In section 3, between South street and the quarter line

of section 25; section 4 was between the quarter-quarter line of section 26; section 5 was between Rock street and the quarter line produced.

Mr. HOW: When you said a quarter of a mile, did you mean a quarter of a mile on each side of the right-of-way?

WITNESS: That was the entire distance.

Q. Having ascertained that value for taxation, did you note it upon each subdivision within the boundaries you have mentioned?

A. Yes.

Q. Did you make any investigation as to the prices for which land had been sold in the vicinity?

A. Yes.

Q. To what extent did you make that investigation?

A. We made investigations as to what land had sold for in all of the sections in which the Northern Pacific owns property.

Q. Were those investigations co-extensive with the investigation with reference to the value placed upon the land for taxation?

A. Yes, they were as complete as the records at that time enabled us to get; that is, it took all of the sales of property that had been made.

Q. This, what you call the sales value, was with reference to the same property as to which you had ascertained the value for assessment purposes?

A. It applied to certain pieces of property within each assessment district.

Q. Now, I understand that a map, upon the same scale as map 12, was prepared for each of the subdivisions of the terminal property of the Northern Pacific?

A. That is correct.

Q. And were similar investigations made with regard to the value of the lands for the purposes of taxation, and with regard

to the selling prices of lands?

A. Yes.

Q. In each case?

A. Yes.

Q. And does map 12 fairly illustrate the extent of your inquiry with regard to each of those subdivisions?

A. Yes. it does, in a way, although, in a proposition of this kind, we have been obliged to consider it on broader ground than would be possible had we considered the individual conditions that might prevail in a given section. For example, there might be a sale of property that, in itself, would not fairly represent its value; so in other cases there might be some sales that would be in excess of its fair value; and, in order to reduce those inequalities to a minimum, we pursued the plan of considering values on broader grounds, and in that way the inequalities which would spring from individual cases were, in a large degree, eliminated.

Q. That is not exactly what I asked you, Mr. Morgan. We have been using here map 12 as an illustration of the method pursued by you. Now, I ask you whether map 12 fairly represents the method pursued by you upon each.

A. I thought I answered that question; it does.

Q. How many persons were employed by you in making these various researches and ascertaining the facts from the records that you have spoken of?

A. When the work was first undertaken, the force that we could employ was necessarily small, because we had not yet received the inventories of the railway companies, but there were certain lines of work that we could pursue, such as getting at the assessed value of the lands and getting at the transfer of property out in the rural districts of the state. As soon as the reports of the railway companies came in, the force was enlarged, and when we were advancing the work at full speed we had twenty-six engineers and assistants at work, engaged

in compiling the data on the various subjects connected with it. Those men were employed almost continuously for the last year, and I should say that, on an average, we have had about twelve to fifteen men at work on this valuation since the beginning.

Q. How many separate items of property were examined for the purpose of ascertaining the value for the purposes of taxation placed upon the respective tracts in the city of St. Paul?

A. I don't know how many individual assessments we took into account. We never have counted those, but they run into a great many thousands.

Q. In the city of St. Paul?

A. Yes.

Q. How many separate conveyances of the same property have been examined for the purpose of ascertaining what you have designated as the sale price, in the city of St. Paul?

A. The report of that special council commission to which I referred, I think, took in something over two thousand transfers of property. My own investigations took in—I don't know how many transfers—but the considerations amounted to $1,344,000 of lands that were sold. In addition, the tax commission of the state of Minnesota, which was created at the last session of the legislature (and left to struggle without funds), I furnished the men for them to make the necessary investigation in respect to the relation between the assessed value and sale price of lands, and I think in the city of St. Paul they considered 10,547 sales of property.

Q. Extending over a period of how many years?

A. Five years.

Q. State whether or not your research upon this subject led you to the conclusion that there was a direct relation between the assessed valuation of real estate and the true value of real estate in the city of St. Paul generally.

A. While the statistics prepared by this special council commission, and also by the tax commission, were reliable, at the same time, I wanted to pursue my own investigations and satisfy my own mind in respect to it. For that reason I made a review of real estate transactions in the city of St. Paul in which the sale price of the land, the properties sold, was $1,344,752, and I found from the ratio which the tax commission had established and which the special council committee had established, as representing about 60 per cent of the sale price of property, that applying that ratio to the assessed value of this same property, produced by that result $1,359,959, or a little bit more than the property actually sold for.

Q. Now, Mr. Morgan, you have answered my question a little in advance of the examination, and possibly we haven't got it entirely clear, and I want to ask you if you came to a conclusion, in your own mind, from your researches, as to what relation the value placed upon land in the city of St. Paul for the purposes of taxation bore to the selling price of land in the city of St. Paul.

A. Yes, I came to a conclusion.

Q. And what is your conclusion?

A. My conclusion is that lands in the city of St. Paul are assessed at about, on an average, for the city as a whole—are assessed at about 60 per cent, on realty—

Mr. DURMENT: 60 per cent of the selling price?

WITNESS: 60 per cent of its selling price.

Q. Now, while this work was being carried on by you, was there an independent investigation being made by a committee of the common council of the city of St. Paul?

A. Yes.

Q. Do you know the personnel of that commission?

A. The report of that commission is signed by W. A. Hardenbergh, Wm. C. Read, W. C. Smith, O. H. O'Neill, T. A. Polleys.

Q. What was the conclusion of that commission as to the relation which the value for taxation bore to the true or selling value of real estate?

A. The report of this commission deals more particularly with the individual tax districts, which shows some variation in the relation between assessed value and sale price, but, as a whole, for the city of St. Paul, this committee finds that the property is assessed on an average of 60.2 per cent of its selling price.

Q. During this same period, was an investigation upon that same subject carried on by the tax commission of the state of Minnesota, with reference to the city of St. Paul?

A. Yes, sir; there was.

Q. Can you state what the conclusion of that commission was upon this subject?

A. I haven't the data here just now, but my recollection is that it was about 57½ per cent; that is, that the assessed value of property was 57½ per cent of its selling price.

The MASTER: Do I understand, when you speak of assessed value in your report and the other, it is exclusive of improvements?

WITNESS: No, that includes the improvements, where they exist, and none where they do not exist. That takes in property that has been sold, irrespective of whether it has improvements on it or not.

The MASTER: I asked the question because, in assessing, they generally separate improvements from the real estate, and I didn't know but you had done so.

WITNESS: We have separated the real estate from the improvements in the city of St. Paul.

The MASTER: And in the figures you have already given?

WITNESS: In the statement here, this shows the real estate assessed at 60 per cent and the improvements at 50 per cent.

The MASTER: I didn't mean to anticipate.

Q. This investigation by the tax commission was the investigation which you referred to in which the Railroad and Warehouse Commission co-operated and furnished some of the men?

A. Yes, sir.

Q. Now, I don't understand what you did in the way of separating the value of the improvements from the value of the land itself, and I wish you would explain that.

A. We took the value of the real estate at 60 per cent, and from the best information which we could get from different sources, (from the assessor's office) the opinion was entertained that the improvements were assessed at about 50 per cent of their value.

Q. So that, in making this comparison, you followed the methods adopted by the assessing officers?

A. Yes.

Q. And when you referred to the assessed value being 60 per cent of the selling value, you were referring to the realty, to the land itself?

A. To the land itself.

Q. Without reference to any improvements?

A. Without reference to any improvements.

Q. Now, what else did you do in arriving at the terminal values?

A. After having established the relation between the assessed value and selling price of lands, as between individuals, it then became necessary to determine, by the same process, how much the railway companies had paid for certain lands that were assessed at a given figure.

Q. Well, we will come to that later. I will ask you whether or not you made any other investigation as to particular pieces of property than those you have described.

A. No, I don't recall that any have been made except that I took into account the Northern Pacific properties specifically.

Q. From your knowledge of the location of the Northern Pacific properties, your investigations with reference to the surrounding properties, state whether or not, in your judgment, this ratio of 60 to 100 is a fair and proper ratio to apply to all of the Northern Pacific lands in the city of St. Paul.

A. Yes, to get their true value.

Q. You have spoken of there being some slight variation in different assessment districts of the city of St. Paul.

A. Yes.

Q. Now, I ask you, taking into consideration the total area of the Northern Pacific lands in the city, the location of each tract of that land, whether or not, in your judgment, the ratio of 60 to 100, which you have described, would be a fair and proper ratio to apply to those lands.

A. I believe it would be a very fair basis to get at the true value of the lands.

Q. Now, did you ascertain that value for taxation as to all of these lands?

Mr. BUTLER: Do you mean the Northern Pacific lands themselves? You mean on each side of it, don't you?

WITNESS: I don't understand your question.

Q. Well, did you ascertain what the value of those lands for taxation would be if they were taxed upon the same basis as the lands immediately adjacent to them?

A. Yes, we did, in a way, although we considered the assessed value of lands on either side of the right-of-way, and then raised that value to the true value and spread it over the Northern Pacific, so that, considering any district you would have a flat average value from one side to the other.

Q. Let me see if I understand you. Take division 2 on map 12, you ascertained the value for taxation of all of the real estate in that subdivision outside of the railroad right-of-way?

A. We did.

Q. You considered that amount to be 60 per cent of the true value?

A. We did.

Q. And by proper computation ascertained what was the true value of all of the land in subdivision 2 outside of the right-of-way, is that it?

A. That is correct.

Q. You then ascertained the total acreage included within the right-of-way in subdivision 2?

A. We did.

Q. And placed upon that total acreage the same value per acre as you had ascertained for the land outside of the right-of-way as the true value?

A. That is correct.

Q. Mr. Morgan, has your experience shown you that, in the purchase of land for railway purposes, a railroad company ordinarily pays more than what you have designated as the true or market value of lands?

A. Yes, it has.

Q. So that, for the purpose of acquiring real estate at any given time, it is true, in your judgment, that a railroad company pays more than the true value of such land?

A. Well, I think I should want to qualify that to a certain extent. Railway companies pursue different methods in obtaining right-of-way, and, sometimes, by the use of outside representatives, they are able to buy certain pieces of land here and there at about its true value; but when it becomes known generally that a railroad is in the market to buy certain tracts of land, the prices advance, sometimes with remarkable increases. But we, therefore, have a proposition that a railroad company is able to buy some lands at normal prices, and other lands they have to pay very much more than normal prices for; so that, considered as a whole, they do pay more than the normal or true value of lands for right-of-way purposes.

Q. In your judgment, is the same proportion of increase found in rural communities as in cities?

A. It has not been so demonstrated from my investigations; the purchase of right-of-way, in the rural districts, for right-of-way purposes, bears a greater multiple of relation to the true value; they pay more for it in the country than they do in the cities. The reason for that is that in the cities property is divided into small tracts and it is cheaper for the railway company to purchase entire parcels of land than it is to purchase a part and pay the damage accruing to the balance; so that they buy entire lots in cities in preference to parts of lots, as a rule. In the country, where land is not divided into small tracts, it was found, from my investigations, that the railway companies paid more in proportion to the true value of land, perhaps not more for the land itself, but taking into account the damages that accrue to the residue of the property by reason of its division—that separates, perhaps, the farmer's house from his barn, or his well from his barnyard, and the dangers incident to moving his stock across the railroad track, and inconveniences,—items of that kind enter into making property in the country that is cut up (sometimes upon parallel lines, more often upon diagonal lines) more expensive in proportion to its true value than is the case in the cities.

Q. If, therefore, the inquiry was to be directed to ascertaining the cost of reproducing the land used by a railroad company for a right-of-way at the present time, and that word "reproduction" should be used in its literal sense, (and for that purpose it would be necessary to assume that the railroad company was not the owner and not in possession of the real estate, and that the railroad itself had no physical existence, and that the land proposed to be taken for the right-of-way was in the condition of the surrounding land at the present time) it would be necessary in order to ascertain the value of the land for right-of-way purposes to add some amount to

the true value?

A. Yes.

Q. But only upon those assumptions which I have mentioned?

A. I couldn't say as to that, whether that would be the only assumption. Upon that *particular* assumption I should say yes.

Q. For the purpose of determining what might be called the reproduction value of the land occupied by the Northern Pacific Railway Company in the city of St. Paul for right-of-way and terminals, upon the assumptions already stated by me, did you make an investigation as to what amount should be added?

A. I did.

Q. Now, what did you do to ascertain the amount which should be added in the city of St. Paul, upon that assumption?

A. I took into account all of the property which the railway companies had purchased in the city of St. Paul within the last five years. I am speaking now from the date of my report. That would be six years from the present time. The plan pursued was the same as that used in determining the relation between the assessed value and sale price of lands to individuals.

Q. Just go on and tell what conclusion you arrived at.

A. We took into account the terminal properties purchased by the Rock Island in entering the city of St. Paul; the terminal properties purchased by the Soo line in its entrance into the city of St. Paul; the addition to its terminal property of the Northern Pacific, lying below the union depot, against Dayton's bluff; we took into account property that was purchased in the vicinity of the state fair grounds; in all 132 acres of terminal property.

Q. Purchased within what period?

A. Within the past five years.

Q. Go on. How did you ascertain the value of the price paid for those properties?

A. We took the assessed value of these same properties, and let that represent 60 per cent of the selling price, which is the ratio that we had established for all other classes of property in the city that had been sold to individuals; that process brought us to the true value of that property. We then divided the true value into what the railway companies actually paid for those same pieces of land and found that in the city of St. Paul they paid about a little over 1.52 times the normal or true value of the lands.

Q. State whether or not, in your judgment, if the cost of reproduction is to be arrived at in the manner and upon the assumptions which I have already stated, the method adopted by you—of the increase in the true value adopted by you—is a fair and proper amount to be applied to all of the lands of the Northern Pacific Railway Company in the city of St. Paul.

A. Not the ratio of 1.52, as I have shown it here, because it has to be taken into consideration that this investigation covers a period of five years, during which time there has naturally been an increase in the value of all property generally; and, in order to equalize that, in making up the estimate on the cost of reproduction, we have used 1.75, that we might be entirely free from any just criticism that we had figured down to the lowest possible notch and ignored certain things which it was believed should be recognized. For example, nearly all of the property which has been considered in the city of St. Paul has been purchased by agreement, and it must be recognized that if we were to reproduce these terminals perhaps some part of them might have to be procured under condemnation proceedings, which would doubtless result in perhaps higher awards than would be the case where the property can be purchased by agreement. So that, taking those elements into account, which it is impossible to determine with

accuracy, (with mathematical accuracy) at the same time, the conclusion was reached that one and three-fourths, or 1.75 times the true value, would cover these special conditions and give a fair measure of the cost of reproducing the terminal properties.

Q. State whether or not, if the presumption is to be indulged in that I have spoken of, the multiple you have given of 1.75 is a fair and just multiple to be applied to all of the Northern Pacific right-of-way and terminals within the city of St. Paul.

A. I believe it would be.

Q. Mr. Morgan, I am going to ask you to restate, then, if you please, to see if I have understood you: You ascertained the value placed upon the land surrounding the right-of-way and terminals of the Northern Pacific in the city of St. Paul on each side for a distance sufficient in your judgment to give a basis for that valuation?

A. Yes.

Q. You have concluded that that valuation is 60 per cent of the true value of those lands so assessed?

A. Without the improvements.

Q. You then ascertained the true value of those lands upon that basis?

A. Yes.

Q. You took, then, as the true value of the right-of-way and terminals the same value per acre as you found the true value of the adjacent lands to be?

A. Correct, without the improvements.

Q. All of those without the improvements?

A. All without the improvements.

Q. You then, for the purpose of determining how much should be added to that value if the cost of reproduction should be determined upon the assumptions I have already stated found that that value would be 52.2 per cent greater than the

true value?

A. Yes.

Q. Then considering that some contingencies might arise which you were not able to determine with mathematical accuracy, you increased that additional allowance to 75 per cent?

A. That is correct.

Q. And prepared a table of values in which the value of the real estate, exclusive of buildings, for railway purposes is placed at 175 per cent of what you designate as the true value arrived at in the way described by you. You have already stated, I think, that your conclusion, arrived at from your own researches and from considering the report of the other commissions, is that, on the average, real estate in the city of St. Paul is assessed at 60 per cent of its true or selling price, as between individuals?

A. Correct.

Q. That portion of the right-of-way passing through rural communities, what did you ascertain upon this same question?

A. I sent men to each county seat to get the transfers of property that had taken place in each of the counties, within a mile and a half on each side of the center line of each railway traversing the county. The instructions given to these special agents that I sent out required them to record the number of acres transferred and the consideration and complete data in respect to the book and page record of the transaction, omitting any transactions which seemed to indicate that it was a foreclosure or sheriff's sale, or any transfer of property which didn't seem to reflect the normal condition. As soon as the work was completed for each county, the books were sent here and county maps were prepared showing the location of all of these transfers on the line. (Showing to the Master map.) This is a map of Clay county, which shows the transfers of property made adjacent to the line of road; each representing the number of acres and the consideration

paid; and in that way a general index of values of lands was arrived at along each section, and each was treated independently; we didn't try to sum them together, but each line was treated independently through the county. And this shows the location of the land, the number of acres and the consideration per acre, and in that way the average.

The MASTER: These figures represent exact sales?

WITNESS: Exact sales from the records, and, as I say, eliminating those which did not seem to reflect the normal values. Maps similar to this were prepared for each county in the state, so that we had full independent information in front of us, so far as it was possible to obtain it.

Q. If you will read your letter of instruction on this point, I think probably it will clear up the matter a little.

A. This is a letter of instructions that I issued to the special agents that I sent out through the state to the various county seats:

"As an aid in determining the cost of reproducing the right-of-way owned and occupied by the railway companies in the state of Minnesota, it is desirable and becomes your duty as special agent to ascertain the true or normal value of lands and real estate located adjacent to the several railways in each of the counties of the state. There are two sources of information which at this time appear practicable, and, so far as possible, should be employed in your researches; first, you are to examine the records of transfers of property subsequent to January 1, 1900, in the various county seats, obtaining therefrom all transfers within one and one-half miles on each side of the center line of the main track of each line of railway traversing the county, and in such instances as the records do not show sufficient activity in the sales of property to enable intelligent and fairly complete data, it is desirable to extend the limitations of one and one-half miles in order to obtain more complete information.

"Second, it will be necessary to make inquiry among real estate men, bankers and business men as to the value of lands to enable, as far as practicable, confirmation of the data obtained from the county records. Each record of transfer must show book and page, town, range and section, acres involved, date of transfer and the consideration. Omit all transfers of property which the records show to have been made for either a nominal consideration, or which represent individual interests, sheriff's sales or foreclosures. Give the names and addresses of parties consulted, together with the expressed views of each as to land values.

"In examining the records you will doubtless find transfers of land to railway companies. These should be carefully noted, and indexed separately in your record book; omitting all transfers to railway companies which are for nominal considerations or which represent easements. Careful and full notes must be kept of all information obtained, and nothing left undone which is essential and necessary to ascertain the true value of lands adjacent to the respective lines of railway. When the work for a county is completed, forward the record book to this office, together with a copy of the latest county map available. Your movements will be directed from this office in such a way as is deemed most expeditious in accomplishing the results sought, and you are urged to make progress as rapidly as is consistent with accuracy and thoroughness."

Q. What did you do with the reports so received by you?

A. The reports that were received from these special agents, together with the county maps, were gone through by my assistants and systematized and brought into shape on the county maps as I have exhibited here; and in this way we were able to get the average value of the lands through each of the counties.

Q. Now, will you please take one of the tabulations or summaries prepared by you and exhibit it to the Master, with

reference to one county? You used a map of Clay county. Now what other data have you with regard to Clay county?

A. I have prepared a statement pertaining to the true value of lands adjacent to the Northern Pacific road in each of the counties through which that line runs, and in Clay county the Northern Pacific Company has two lines, one running north and south, and the other east and west. We find from the consideration of 74 transfers of property adjacent to the Northern Pacific that the average true value of lands is $24 an acre along the Northern Pacific railway. The state tax commission has also made some investigations in the different counties of the state, and they find that the assessed value of farm lands per acre, including improvements, is $9.27; they considered 430 transfers of property in that county, and found that the ratio of assessment to true value was about 34 per cent, and that the true value of all lands in Clay county was $27.36 an acre. Now, in addition to that information, we have the opinion of Mr. George W. Perley, who is an attorney and real estate agent, stating that the lands in Clay county are worth, on an average, about $25 per acre, covering the whole county; on the Northern Pacific, where they are changing their line through Riverton, Hawley and Highland Grove, they are paying from $50 to $100 an acre for right-of-way, but adds that their deeds are not yet recorded. So that taking the work of the state tax commission, taking the opinion of Mr. Perley, and taking the result of our own investigations, there is a very small percentage of difference in the three values.

Q. Have you gone through each county in which a portion of the line of the Northern Pacific Railroad is situated, in the same manner?

A. I have.

Q. And made these different checks?

A. I have.

Q. All of these conclusions being embodied in the final tables prepared by you?

A. They are.

Q. Assuming that the inquiry should be directed to the cost of reproduction, using that term in its literal sense, and assuming the necessity for purchasing right-of-way in the rural communities at this time, and assuming that the right-of-way to be so purchased would be of the true value as ascertained by you, state whether or not, in your opinion, a railroad company now purchasing lands of that value would be required to pay a larger sum, compelled to pay a greater sum than what you have ascertained to be the true value.

A. They would.

Q. And upon those assumptions, what multiple do you think should be used for the purpose of arriving at this cost of reproduction of right-of-way value?

A. My investigations show, which take into account newly constructed lines in the state, the Milwaukee line between Farmington and Mankato; the Soo line extending through the northern section of the state and across the Red River valley; and of the Illinois Central in the southern part of the state, and of information which I have obtained from other sources; show that on the cost of reproduction it is necessary to multiply the true value of lands as obtained from the transfers by three to arrive at the average cost to the railway companies of acquiring the right-of-way.

Q. And you have prepared a table of values upon that theory, have you not?

A. I have.

Mr. O'BRIEN: Now, may it please the Court we think that we ought to at this time make a statement upon the record: The claim of the State is, in this litigation, that no additional value to the true value should in any case be allowed, either in a city or in a rural community. We will present to the

Court evidence as to values upon both theories and will explain what multiple should be used in case the cost of reproduction is to be ascertained upon that theory; but we do not at all concede it, nor do we present this evidence with the idea that we can in any sense be considered bound by it. But we think it proper to put the facts before the Court as they exist. It has been suggested that I add to this statement that the evidence which we will produce as to the true value of these lands shows the true value to be much less than the value as claimed by the Complainants, and the multiple (value) used, particularly in the cities, upon the theory adopted by them, is much less than the multiple; so that we have thought that in justice to the whole record and to the way this work has been done, all of these matters should be placed before the Court. But our contention is that, as a matter of fact, the true theory is the cost of the property, the original cost of the property; that if we are not right in that, it is the value of the property, and that, by no means, the present value of the property, and that, by no means, will we ever arrive at an imaginary value according to this theory of an additional multiple.

Mr. DURMENT: Yes, and if the multiple is to be used, it must be applied to the true market value and not to an inflated market value.

Adjourned until the morning of Thursday, December 24th.

CAPITOL BUILDING, St. Paul, Minn., Thursday, December 24, 1908. Hearing resumed at 10 A. M.

DWIGHT C. MORGAN,

recalled on behalf of Defendants, testified:

By Mr. O'BRIEN:

Q. In ascertaining the value placed upon property for the purpose of taxation, from the fact that the railroad right-of-

way and terminals are exempt from direct taxation, it was impossible to get any statement as to the values put upon these particular properties for that purpose?

A. Yes; our investigations disclosed that, under the gross-earnings tax, railroad property being exempt from taxation, the records in the office of the county assessor were not in such shape, nor had they been kept up, with the changes in the values of property, in such a way that they could be made use of intelligently, and for that reason it was necessary to take into account such property as the taxes were actively kept up on; and, of course, that was contiguous property adjacent to the right-of-way of each of the railway companies.

Q. In valuing the real estate in the city of Minneapolis, what method did you pursue?

A. The same method was employed in Minneapolis as in the city of St. Paul. The work was done, under the direction of the tax commission, with men that were furnished from this department, and the principal difference, in respect to the Minneapolis work, was that no subdivision appeared to be possible as between real estate and improvements; and the basis used there was the established basis, from the transfers, without taking into account what proportion the improvements bore to the total assessed value.

Q. Did you prepare maps?

A. Maps were prepared of Minneapolis.

Q. Of Minneapolis property, in the same way as of the St. Paul property?

A. In the same way.

Q. Now, will you produce one of the Minneapolis maps?

A. Maps of Minneapolis were prepared in the same way as for St. Paul, and there were twenty maps for Minneapolis. The large maps are on the same scale that the St. Paul maps are on in this bundle.

Q. Will you produce one of the maps showing Northern

Pacific property?

Witness produces map and places same on wall.

Mr. BUTLER: What is the number of that map?

WITNESS: That is map No. 17 of Minneapolis, which extends from Twenty-sixth avenue to Thirty-fifth avenue, on the west side of the river. This, I may say, is up above the Union depot, before the Northern Pacific crosses above, to go over to Northtown Junction.

Q. Now, please indicate one of the subdivisions, marked with a large figure upon this Minneapolis map—and, by the way, what is the number of that Minneapolis map?

A. No. 17.

Q. —through which the Northern Pacific tracks pass—4, 5 and 6?

A. 4, 5 and 6; 1, 2 and 3, 4, 5 and 6 (indicating).

Q. The land on each side of the right-of-way appears to be platted into lots and blocks, in all of those subdivisions?

A. It is.

Q. And I notice that upon each lot there are certain figures. Will you please state what those figures represent?

A. Take section 6: We have the assessed value of the real estate and the assessed value of the improvements shown on each separate lot in subdivision 6. In addition to that, we have certain lots colored in red, which have been sold, as between individuals, during the past five years. They show, at different points on the map, property that has actually been sold.

The MASTER: How wide is the section?

WITNESS: That section is about a quarter of a mile.

Q. And give the size of each of the sections.

A. Probably it might be well to describe those, Mr. O'Brien, by giving the width in blocks?

Q. Very well.

A. Section 6 is seven blocks wide, owing to the fact that

a section of the line comes through here (indicating); section 5 is three blocks wide; section 4 is four blocks wide; section 1 is six blocks wide; section 2 is six blocks wide; section 3 is three blocks wide. I may say this, that, as far as it has been possible to do so, we have endeavored, in making up these sections, to establish them in such a way that the location of the road through it was practically the center of gravity; that we got, as nearly as possible, an equal division of property on either side of the section, in order to get a fair index of value to apply.

Q. Now, in the city of Minneapolis, I understand you have twenty maps similar to this map 17 which is produced here?

A. We have.

Q. All of those maps are drawn upon the same theory?

A. The same.

Q. And furnish similar information?

A. They do.

Q. And are they in your possession?

A. They are.

Q. I might ask you at this time whether all of those maps and all of the data in your possession, upon which your testimony is based, will be, from now on, at the disposal of the Complainant's counsel?

A. It is.

Mr. HOW: Do you mean that to apply to the Great Northern?

Mr. O'BRIEN: No, sir.

Mr. HOW: Just the Northern Pacific?

Mr. O'BRIEN: The Northern Pacific. We desire, at this time, to make this offer with reference to the data, compilations, maps, charts, and field-notes of Mr. Morgan, with reference to the value of the property of the Northern Pacific, just as broad as possible, and that all of those matters are entirely at the disposal of the counsel for Complainants. Of course,

in the interest of economy of time, I shall not attempt to go into each of those matters in detail upon direct examination.

Q. Now, Mr. Morgan, you said there was some difference in the method pursued by you in Minneapolis from that pursued at St. Paul with reference to ascertaining the ratio between the assessed value and true value of real estate; will you explain that?

A. I don't know that I was exactly correct in stating that there was some difference. I might better have said that the assessed value of improvements and the assessed value of real estate was upon the same relative percentage. In St. Paul, we used 60 per cent on real estate and 50 on improvements; in Minneapolis we used 54.7 per cent as representing the assessed value of real estate, and this was based upon the ratio which was furnished by the state tax commission. Inquiry in the office of the assessor indicated that improvements and real estate were assessed about on the same basis, but we have not used the improvements in any case; we have used simply the assessment on the real estate as a basis.

Q. You arrived at the value of the improvements by another method,—by actual computation and examination of the improvements?

A. You are speaking now with respect to the railway properties themselves?

Q. Yes; railway buildings, terminal buildings.

A. Well, I was speaking of property in general, exclusive of buildings, of railroad property, in my remarks.

Q. You ascertained what the assessed value of land was in Minneapolis?

A. We did.

Q. And you ascertained, by the same method which you have described as having been pursued in St. Paul, what relation the assessed value bore to the true value?

A. That is correct.

Q. And from that you determined what you considered the true value of lands in Minneapolis?

A. That is correct.

Q. In exactly the same method as you did in St. Paul?

A. Exactly.

Q. In ascertaining the value of improvements, you did not take into consideration the assessed value of improvements?

A. On railroad property, do you refer to?

Q. Yes.

A. No.

Q. The improvements upon the railroad property consisted of grades, road-bed, tracks and railroad buildings?

A. Yes.

Q. And the value of those improvements you have ascertained to your satisfaction without reference to the assessed value of improvements generally throughout any of these cities?

A. That is correct.

Q. You have not yet explained how you arrived at the value of the railroad improvements.

A. No.

Q. We will come to that later. Now, in the city of Duluth, did you pursue the same method?

A. The same as in Minneapolis and St. Paul.

Q. And how extensively did you go into the question in Duluth?

A. We furnished the assistants necessary to determine the ratio between the assessed value and sale price of property in Duluth, the same as we did in Minneapolis and St. Paul.

Q. How many separate tracts of real estate were examined by you, and by you and the tax commission when acting in conjunction as you have described?

A. In Minneapolis 11,352 transfers of property were considered; in Duluth 4,419.

Q. Now, you say that number of transfers were examined; how many separate tracts were examined with reference to the assessment upon each?

A. That is the number.

Q. The same number?

A. Oh, as to the assessment? I couldn't say as to that.

Q. Well, was it more or less?

A. Well, of course, in Minneapolis we got the assessment on a great many thousand tracts of land.

Q. And in Duluth?

A. And in Duluth the same way; not so many, because Duluth is not such a large city.

Q. You have already described somewhat the method adopted by you for ascertaining the value of right-of-way through agricultural lands; what did you do with reference to ascertaining the value of the right-of-way and depot grounds in the towns and villages of the state, outside of St. Paul, Minneapolis and Duluth?

A. We had the record of what some new lines had paid for right-of-way in purchasing through towns in the state, and found that the ratio was, to all practical purposes, about the same as in the country, and that same ratio was used. In addition to that, a book was compiled which showed what each railway company considered the cost of reproducing its right-of-way through each of the towns; for example, several railways would enter a town, and, while there would be individual differences, due to location with respect to the center of the town, at the same time, it gave a very good index of values, and that, together with the information and investigations that we made, enabled us to get a fair index of the cost of reproducing the depot grounds in the various towns and villages throughout the state. Some special investigations were made at different points for the purpose of getting an index of values, and then, with the personal observation in con-

nection with this data, it was possible to form a pretty intelligent opinion in respect to it.

Q. In the larger towns of the state did you make a special examination?

A. Yes, in several; we made special examinations respecting Winona real estate—

Q. The Northern Pacific doesn't extend to Winona, does it?

A. Well, you were speaking of the other towns.

Q. Of course, I am speaking now of the other towns on the Northern Pacific.

A. We made special investigations of a number of towns on the Northern Pacific. We looked into the values in the village of Audubon, in Becker county; Elk River, in Sherburne county; Anoka, in Anoka county; Big Lake, in Sherburne county; Wyoming, in Chisago county; Rush City, in Chisago county; Wadena, in Wadena county; Clear Lake, in Sherburne county; North Branch, in Chisago county; Frazee, in Becker county; Chisago, in Chisago county; Detroit, in Becker county; Staples, in Todd county.

Q. How about such a place as Brainerd?

A. We didn't make any special investigations of Brainerd. The figures turned in by the Northern Pacific, and from the information that we had gained from other sources, led me to believe that their figures were, in the main, reasonable.

Q. Well, then, where your judgment was not different from the report as turned in by the Company, as you have described, you made no special investigation?

A. No.

Q. You investigated far enough to satisfy yourself as to whether or not the report did agree with your judgment, did you?

A. We investigated to such an extent that I could form an intelligent opinion in respect to the values that were turned in by the railway companies.

Q. And where your judgment disagreed, then you made this detailed and careful examination which you have described?

A. Yes, to a large extent, although not wholly so. The bases of my own investigations were oftentimes used without respect to what the Railway Company had put in, and that was founded upon the investigations that had been made and which seemed to be justified from those investigations.

Q. During the time that this valuation was being made by you, did you, from time to time, inspect the property itself, visit the different pieces of property?

A. I did. I have been over all of the terminals of the Northern Pacific in St. Paul, Minneapolis and Duluth, I think, on foot, and I have been over all of their properties outside of those cities.

Q. In visiting the different properties of the Northern Pacific, were you accompanied by any member of the Commission?

A. Yes, by one or more members of the Commission.

Q. And had an opportunity of consulting and comparing impressions and opinions with the members of the Commission that you were with?

A. Yes.

Q. During this same time you were in receipt of reports from how many other railroads in the state of Minnesota?

A. About twenty-eight different companies.

Q. And were engaged in ascertaining the value of the real estate and other property of those railroad companies?

A. Yes.

Q. Could you give, approximately, the acreage which you have valued in the past three years while engaged upon this work?

A. In arriving at the cost of reproducing the right-of-way of the railroads of Minnesota, we have considered more than 55,000 transfers of property, involving considerations approxi-

mating $100,000,000. This data, of course, has been supplemented by the opinions of disinterested parties and by personal examination and inspection of each of the railways.

Q. Do you believe that at this time you know the true value of the right-of-way and terminals (referring now exclusively to real estate) owned by the Northern Pacific in the state of Minnesota?

A. I do, for what I believe for all practical purposes.

Q. Now, describe, in general, the method adopted by you for the purpose of ascertaining the value of the buildings located at the large terminals; and, I don't know, Mr. Morgan, but I suggest, for instance, that you take the general offices of the Northern Pacific in this city as an illustration. If there is a better illustration, suggest it to me.

A. When the reports of the railway companies were received, they were in such detail as to show the number of square feet of each class of building, and, for the purpose of getting at fair average prices, graphic charts were made in respect to each class of building, and those charts enabled us to draw thereon a fair average unit of cost for buildings of different sizes; and that, in general, was the way in which the units were arrived at and which, of course, were checked from information from other sources in respect to cost; and, also, there were many cases which came to my attention on the examination of each of the lines where the units of price would not apply reasonably, and, of course, in those cases it was necessary to make exceptions. For example, a brick passenger station might show a cost of $4 a square foot; another one, of the same class, might show a cost of perhaps $3 a square foot. From our examinations as to the reasons for these differences it was found, in some cases, that some of those buildings had piles under them, which added to the cost, and therefore, under those circumstances, it was not reasonable to attempt to apply a unit of value to all but we endeavored to be governed by the

individual conditions pertaining to each building, so far as it was practicable to do so. We don't appear to have the details of the Northern Pacific office building here, except in the final report. If you wish any further details in respect to that, we can locate them later.

Q. I just wanted you to take some building at a large terminal and explain the method of arriving at the value of that building. You have given the method of arriving at the value of the land upon which the building was situated; now, I want you to describe your method of arriving at the value of the improvements, and take any building which would be a good illustration.

A. Take section 2, of the Northern Pacific, which extends from Bald Eagle to Duluth: The station building at Sturgeon lake, a one-story building, 20x59; from our table of cost of one-story passenger stations, we find that such a building should normally cost about $1,664. Willow River: A one-story frame station, 20x22 and 20x38, should cost about $2,000, from our table, which varies according to the size of the structure for that class of building.

Q. Will you give some station building which varied from this unit price by reason of peculiar construction, as you have described, or the use of piles underneath it?

A. Well, I don't know that I recall any on the Northern Pacific at this time. The particular instance that I had reference to was on the Great Northern road, and I made reference to it because it was clear in my mind when it came up.

Q. Now, can you turn to any building there to which some additions have been made on account of the peculiarity of the construction?

A. Well, here is the station of Moose Lake. As I recall, the Northern Pacific had reported the size of that depot wrong, and therefore our cost of reproducing that depot would be entirely different from the returns that they had made in respect

to it, because we were estimating upon a different size depot than the Northern Pacific had reported.

Q. How did you ascertain the fact that you disagreed as to the size of the building?

A. In examining the Northern Pacific properties, we had their inventory with us with respect to all of their properties, and when we arrived at each of the stations, the station buildings were measured, the miscellaneous buildings were all checked on the inventory, and where differences existed we noted them right on the inventory; and when we came to make up our own valuation, we used, of course, the corrected figures according to our own measurements, which, in quite a number of cases, changed the sizes of the depots on the Northern Pacific.

Q. Did you measure every building owned by the Northern Pacific used for railroad purposes?

A. Not every building; we measured most of them, the purpose being to get a good index as to the accuracy of their report in general. I think every station building was measured.

Q. Well, Mr. Morgan, I would like very much that you would explain, before you get to the station buildings, or, possibly, now that you have explained about the station buildings, that you would explain a little more in detail what you did in regard to the buildings at the large terminals. Those, I imagine, were the most expensive buildings, were they not?

A. Yes. The buildings in the large terminals were measured and estimated on different bases, according to the character of their construction.

Q. Will you not take one large terminal building and explain your method with regard to that building? That may illustrate all of those buildings.

A. Well, let us take the general office building of the Northern Pacific.

The MASTER: At St. Paul?

WITNESS: Of the Northern Pacific in St. Paul. We worked out the number of cubic feet in that building and applied a price per cubic foot on the cost of reproducing it. We had, as a basis, figures of cost in respect to other general office buildings; for example, we had the actual cost of the Soo general office building, in Minneapolis, which was recently constructed, and which is probably a little better type of construction than is the office building of the Northern Pacific. We also had figures in respect to the Omaha, in respect to the Great Northern, and in respect to the new Security Bank building, in Minneapolis; of the city hall, and other buildings of that type, which gave a pretty fair index as to what the general cost of buildings of that class is; and having worked out the cubical contents, it became necessary to apply the unit per cubic foot to buildings of that type.

Q. In the report furnished you by the Northern Pacific Railway Company, was the value of the general office building given separately?

A. Yes.

Q. And can you state whether you agreed with the value as given?

A. Our figures reduce the cost of reproducing the Northern Pacific general office building. They report $585,000 for the main office building and the L-connections attached to it. Our valuation on that is $523,327.50.

Q. A difference of how much?

A. A difference of about $50,000.

Q. Now, were each of the large buildings in St. Paul, Minneapolis and Duluth, gone over in detail in the same manner?

A. They were.

Q. And each of the freight buildings in the large terminals?

A. They were.

Q. So that each of the large buildings and terminals were gone over in detail by you in making your examination?

A. Yes.

Q. Then, out upon the line, the station buildings were examined and checked up, as you have already described?

A. Yes.

Q. The value of the real estate as given by you does not include the improvements of that real estate by the construction of a road-bed and the laying of track upon it?

A. No.

Q. Did you ascertain the value of the construction of the road upon the terminals and right-of-way?

A. Yes.

Q. In considering the railroad property, Mr. Morgan, I understand you considered first the value of the real estate simply as land, exclusive of all improvements?

A. That is correct.

Q. The improvements consisted either of a roadway or buildings?

A. Yes, or both.

Q. You have now given us how you arrived at the value of the land itself; also, how you arrived at the value of the buildings; now, please give us how you arrived at the value of the roadway, including switches, side-tracks and all improvements, which I suppose might properly be described as the construction of the road exclusive of buildings.

A. When the examination of the Northern Pacific properties was made, as previously stated, we had the inventory with us, showing all of the different classes of property that they owned, and in making the examination, these items were all checked, that we might know that they did possess what the report of the Northern Pacific Company included. The estimation of the grading quantities was made after this examination, and opportunity had been afforded to take measurements of the road-bed, its width. We had with us the profiles of all of the lines of the Northern Pacific and those were in constant

use; they showed the grade line and the ground line, so that an engineer can intelligently locate himself at all times, on this profile, in passing over the line at a low rate of speed. Notations were made on the profiles as to the character of material, and notations were made in the books in respect to the width of the excavation or the embankment at different points, stops being made at every other mile-point for that purpose, and at which point the width of the road-bed and ballast was measured, and a check was made of the number of ties in a given distance from which to estimate the average number of ties per mile; the weight, brand and age of the rail was obtained; and in this way we were able to determine how long certain rail had been in use on the line, and also to note where rail had been changed since the report had been submitted. In other words, we found a number of places where the weight of rail reported would perhaps be 72 pounds, but upon our examination we would find it to be 85, that since the report had been filed, the lighter rail had been taken out and replaced with the heavier rail. That immediately led to inquiries as to how much of this new rail had been laid, and in that way we got an index of the changes in the track conditions. After making the examination, I set my force of assistants at work making—

Q. Before you get to that, Mr. Morgan, were you accompanied by any representatives of the Road upon those inspection trips?

A. We were.

Q. Name them.

A. In all cases, either the divisional superintendent or one general officer of the Company accompanied us. On the Northern Pacific we were accompanied by Mr. M. C. Kimberly, who was formerly general superintendent of the Northern Pacific Company, and who has been associated with it from its early construction, and was probably the best qualified man to give

information in respect to that property, that could have been assigned to assist us. In addition to Mr. Kimberly, we had the roadmasters, the superintendent of bridges and buildings—

Q. Those men were consulted, from time to time, by you?

A. They were.

Q. Information obtained from them?

A. Yes.

Q. And comparisons made with them?

A. They were.

Q. Did the amount or quantity of material in the grades, upon the line of the Northern Pacific Railway Company, agree with the report furnished to you?

A. The estimate that was made in my office differed from the estimates returned by the Northern Pacific in some important respects, to start with; and an effort was made to reach common ground in respect to these matters. I think that, at the present time, the grading quantities substantially agree. There were, however, in the first place, some very wide differences, and, in adjusting the matter, I found it was necessary for the Northern Pacific to, in some cases, reduce its estimates, and in others I found it to be necessary for me to increase my estimates, because of conditions which would not be apparent without an understanding of it, because there are many engineering works that so completely destroy the topography of a country and leave so few remaining evidences of the original conditions, that unless information is acquired from some one who has knowledge of it, any estimate would be too conjectural to be of value; and, therefore, where it was found that these conditions existed, we corrected our figures in an effort to arrive at the truth as nearly as it could be done.

Q. Did a striking illustration of that kind occur in the northern part of the state, where this boggy land exists which has been described by some of the witnesses as a muskeg?

A. Yes. I found on the line or on the section of the line

of the Northern Pacific between Staples and Carlton, going east, that east of Brainerd and between that point and Carlton, there were a great many points where there were muskeg swamps, into which a large amount of material had been put. I think my original estimate showed a difference of somewhere in the neighborhood of a million yards below what the Northern Pacific Company had returned; and as soon as that difference became known, I took the matter up, and the Northern Pacific Company furnished me with the original construction profiles of that line, which showed the soundings made to the bottom of these muskeg swamps. It was a very difficult matter to arrive at an estimation of how much material had been put into these swamps in order to hold the road-bed up, or rather, to establish a permanent road-bed, and, in discussing the matter quite fully with Mr. Kimberly, and with the assistant chief engineer, it was agreed that if the normal quantities showing on the profile, exclusive of the sink-holes, were increased twenty-five per cent, that would cover the additional expense. Well, that appeared to me to be a reasonable proposition and probably as near a solution to it as could be gotten. There was no way that you could measure what had actually been put in there, but it must have been a very considerable yardage. The Northern Pacific Company then prepared a statement on that basis and submitted to me, but in addition to making an increase in the yardage which was supposed to cover the additional expense, they also added all of the submerged material, corduroy, bridge material, matters of that kind, which I had not understood to be a part of the agreement that had been arranged and which I have, in view of my understanding of it, left out, because I believe it should have been left out, under the arrangement that was made. On the line between Bald Eagle and Duluth, there was a difference of about a million yards of material there, and that was clearly a mistake on the part of the Northern Pacific Company, which

they corrected when their attention had been called to it. In respect to the other sections, there were some minor differences, but those were adjusted; so that we stand practically together, so far as the quantities are concerned, the exception being that I have not included in my report that submerged material which they inserted, because of my understanding of the agreement that increasing those quantities twenty-five per cent would take care of that proposition in fairness, and it was the acceptance of what they themselves had proposed.

Q. State whether or not their report was accepted by you with regard to the classification of the material, between here and Duluth, as to the amount of rock necessarily excavated.

A. No, there was quite a serious mistake in the classification of the material on the Northern Pacific. They had left out about 86,000 cubic yards of solid rock, in making up their estimate, which I had found from my examination of the line, and, of course, I called their attention to that fact that they might correct their report and include 86,000 cubic yards of rock which they had omitted.

Q. Now, I understand, when you speak about having come to an agreement, you mean that the yardage, for instance, upon the grades of the Northern Pacific Railway Company, as now claimed by Mr. Darling in his testimony in this case, agrees with your estimate of that yardage?

A. No, I think not, in this respect: That in the estimate which Mr. Darling has presented of the grading quantities, he has included, I think, something over a million yards of material that has been put in on new construction work near the west end of the state which we have not included in our estimate, because I have not undertaken to include in my estimate unfinished work. It became necessary to draw a line of demarkation in respect to what would be considered and what would not, and, therefore, to avoid confusion, it was decided to take into account only those things which were completed

and in service as of June 30, 1907.

Q. With the exception which you have stated, are the quantities, as claimed by the testimony of Mr. Darling in this case, the same as the quantities claimed by you?

A. They are, yes, substantially so.

Q. And that result has been arrived at by reason of the numerous conferences you have had with the officials of the Road since you entered upon this work of valuation?

A. Yes.

Q. And in arriving at those quantities, the value of which you propose to give now, you consulted with the officers of the Road and made these investigations and came to these agreements which you have been describing?

A. Yes.

Q. I understand, Mr. Morgan, from your testimony, that you do dispute the quantity of corduroy and bridge material, and matters of that sort, which is claimed to have been submerged in these swamps?

A. I do, by reason of the agreement.

Q. So that there may be a conflict in quantities between yourself and Mr. Darling with reference to that particular matter?

A. Yes.

Q. But it is a small matter, at best, is it not?

A. Yes, a small matter.

The MASTER: You assume the twenty-five per cent covered it, and he does not?

WITNESS: Yes; and that twenty-five per cent was their own proposal.

Q. In speaking of the different classes of buildings, a few moments ago, I omitted to speak of shops, and buildings of that character; were they examined in the same detail—

A. They were.

Q. —as the other buildings?

A. They were.

Q. Have you prepared a summary giving the total value of the property of the Northern Pacific Railway Company used for railroad purposes, located in the state of Minnesota, in which the real estate is valued at what you have described at its true value?

A. I have.

Q. Will you produce the summary?

A. I hand you Estimate B, part of my report to the Railroad & Warehouse Commission.

Marked for identification "Defts.' Ex. OO—Morgan."

Q. Calling your attention to Ex. OO, will you please explain what the first column of figures represents?

A. The first column of figures in Ex. OO represents the cost of reproducing new the properties of the Northern Pacific Railway Company in the state of Minnesota, in which, under item 1, the multiples on lands for right-of-way, yards and terminals have been omitted, and the figures inserted are those representing the true value of lands as determined from the investigations made by the sales-method and by transfers of property.

Q. What is the second column?

A. The second column represents the present value of the physical properties of the Northern Pacific Railway Company in the state of Minnesota, or is different from the first column in that the second column takes into account the depreciation which has taken place through wear and tear of the physical elements. There are some items connected with that that show no depreciation; for example, item 1, land for right-of-way, yards and terminals, would have the same present value as cost of reproduction. The same would be true for item 2, grading, clearing and grubbing; the same would be true for item 6, ballast; and for item 29, adaptation and solidification of road-bed; for item 30, engineering, superintendence and legal expenses; for item 36, freight on construction material;

for item 37, contingencies; for item 38, stores and supplies in Minnesota; and for interest during construction.

Q. Now, have you prepared statements giving certain details of the items contained in this summary?

A. I have.

Q. You have prepared, you say, certain tables giving details of certain of the items appearing in Ex. OO?

A. I have.

Q. Those tables were prepared, I understand, Mr. Morgan, by you in connection with your report to the Railroad and Warehouse Commission, upon all of the railroads in the state?

A. They were.

Q. So that the tables are numbered, upon their face, with reference to your report?

A. They are.

Q. And some of the tables not referring to the Northern Pacific Railway Company, of course, must be omitted at this time?

A. They should be.

Q. So that, in order to understand the order of the tables as now offered, their designation as exhibits in this case, rather than the designation of the number of tables appearing on its face, must be considered; is that true?

A. That is correct.

Witness produces statement marked for identification "Defts.' Ex. OO—Morgan, numbers 1, 2, 3, 4, 5 and 6." Also, another, marked "Defts.' Ex. PP—Morgan," entitled Estimate "A"—Table I.

Hearing adjourned until Saturday, December 26th, at 10 A. M.

CAPITOL BUILDING, St. Paul, Minn., Saturday, December 26, 1908, hearing resumed at 10 o'clock A. M.

DWIGHT C. MORGAN,
recalled on behalf of Defendants, testified:

By Mr. O'BRIEN:

Q. Now, Mr. Morgan, will you take Ex. OO-1, 2, etc., and explain each table, in turn?

A. Table OO-1 is a statement showing the cost of reproducing the physical properties of the Northern Pacific Railway, omitting multiples on lands for right-of-way, yards and terminals, and adaptation and solidification of roadbed. This shows the name of the company, the cost of reproducing the physical properties as of June 30, 1907, with the omissions above stated; the number of miles of main line roadway in Minnesota; the cost per mile of main-line roadway in Minnesota; also all main tracks in Minnesota, and the cost per mile for all main tracks in Minnesota, and all tracks in Minnesota; which, of course, takes in the first main track, the second and third and fourth main tracks, such as they have, and all of the sidetracks and spurs and the cost per mile, on that basis. Table OO-2 is a statement showing the present value of the physical properties of the Northern Pacific Railway Company, omitting multiples on lands for right-of-way, yards and terminals and adaptation and solidification of roadbed. This table is prepared in the same way as Table OO-1, except that the basis of the figures is the present value, taking into account the depreciation due to wear and tear by time and use. Table OO-3 is a statement showing the total acreage and total cost of reproduction of the lands for right-of-way, yards and terminals on the Northern Pacific System in Minnesota, omitting multiples on lands for right-of-way, yards and terminals. This statement divides their lands into different classes,—first, into the right-of-way proper, showing the num-

ber of acres owned and the cost of reproduction; station grounds, showing the total acres of station grounds and the cost of reproduction; gravel-pits, total acres and cost of reproduction; terminals, acres and cost of reproduction; and a total of all these items in which we get the total acreage of the Northern Pacific System in this state and the total cost of reproduction on the basis of omitting the multiples. Table OO-4 is a statement of acreage and cost of reproduction of the Northern Pacific Railway in Minnesota, per mile, omitting multiples on lands for right-of-way, yards and terminals. This statement is similar to Ex. OO-3, except that it has reduced the cost to a per-mile basis. Ex. OO-5 is a statement of the cost of reproduction of the Northern Pacific Railway, which owns terminal lands in St. Paul, Minneapolis and Duluth, showing reproduction cost, inclusive and exclusive of the terminal lands, omitting the multiples on lands for right-of-way, yards and terminals and adaptation and solidification of roadbed. This exhibit gives the name of the Railway, the miles of main line of roadway, and, under the cost of reproduction, column 1, gives the total cost, including the terminal lands, and the cost per mile. Columns 3 and 4 give the cost of reproducing the Northern Pacific exclusive of the terminals and the cost per mile. The last column on this exhibit is the difference in the cost per mile, due to, first, the inclusion, and then the exclusion, of the terminal lands owned by the Northern Pacific. Ex. OO-6 is a statement showing the cost of reproducing the terminal lands of the Northern Pacific in the cities of St. Paul, Minneapolis and Duluth, omitting multiples on lands for right-of-way, yards and terminals, showing the name of the Company, the number of acres of terminal lands in these cities, the cost of reproduction per acre which is the average for all of those cities.

The MASTER: When you speak of main-line roadway, you include the main tracks on the main lines and all the branches

in the state?

WITNESS: No. I should like to explain that in this way: Main-line roadway is the distance from one point to another, without regard to the fact that they may have second main track. It is the abstract distance between the beginning and the end.

The MASTER: That is what I understood, but did you intend these tables to include the branch lines as well as the main lines?

WITNESS: They do, yes.

The MASTER: That is what I had in mind. You speak of "main line" and then "branch lines," but I assume, from the character of your testimony, that you included branch lines, but had reference to the main tracks between points and also the double tracks and the sidetracks and spurs, and all that sort of thing?

WITNESS: Yes, sir.

The MASTER: But you included all of the Northern Pacific Railroad track in the state in these statements?

WITNESS: That is correct.

The MASTER: Whether in the main lines or in the branch lines?

WITNESS: Yes, sir.

Mr. O'BRIEN: I think that that is not exactly the sense in which the term "branch line" is used.

The MASTER: No, but that, as I understand, is what he means to cover by these exhibits.

WITNESS: That is the sense in which it is applied in these exhibits.

Mr. BUTLER: Main track would be included in the main-track mileage in these statements.

The MASTER: That is, the main tracks on all the lines?

Mr. O'BRIEN: Yes.

Q. Now, will you please explain what Ex. PP is?

A. Ex. PP is a statement of the mileage of the Northern Pacific Railway in the state of Minnesota, showing the miles of main line of roadway, the miles of main tracks, the miles of sidetracks and the miles of all classes of tracks.

Q. Have you the tables which you stated you prepared in which you used the multiple as you have described it?

A. I have both the estimate and the tables, which includes the multiples and adaptation and solidification of roadbed.

Q. Give me, first, the summary.

A. I hand you herewith Estimate "A," which includes the multiples on lands for right-of-way, yards and terminals and adaptation and solidificaton of roadbed. This was the first estimate that was prepared; and Estimate "B" is a modification of it.

Q. In Ex. QQ you have included in the value of the lands the additional value as to the terminal lands and the additional value for agricultural lands, arrived at in the way you have already described in your testimony, and which you designate as the multiple used by you?

A. Yes.

Q. Which fact accounts for the difference in the value of the lands as stated in Ex. QQ and as stated in Ex. OO?

A. Correct.

Q. Item 29 in Ex. QQ, adaptation and solidification of roadbed, is given as $1,613,612.76; that item is the same in Ex. OO as item 29?

A. It is.

Q. At the foot of Ex. OO, I find the following, "'Omitting adaptation and solidification of roadbed, $1,766,905.97." Will you explain why that item is given there at the latter amount?

A. The counsel for the State desired to show the item of adaptation in Ex. OO in the estimate, and also to show what difference there would be if that item were omitted; the fact that the $1,613,612.76 has been increased at the bottom to

$1,766,905.97 is because there are certain items below item 29 that are figured on a percentage basis, and for that reason they increase the amount that is allowed for adaptation and solidification of roadbed when the estimate is considered in its finality.

Q. If that item of adaptation is not a proper item to be added to the value of the road for the purposes of this case, the additional amounts appearing in subsequent items, which were made up upon a percentage of the items from 1 to 29, must be also excluded, must they not?

A. No, the percentages should not be excluded, but it would modify the figures.

Q. Well, is not item 30 made up of a certain percentage of the total of items 1 to 29?

A. That is correct.

Q. Then if the amount of item 29 is deducted, the total of item 30 would be changed, would it not?

A. That is what I attempted to explain. I understood your question that it would take out all of those percentages, but it would take out a certain proportion of them that was related to that particular item of adaptation and solidification of roadbed.

Q. Then the amount stated at the foot of Ex. OO is the amount appearing in item 29 and the additional amounts added as percentages in item 30 on account of that?

A. In items 30 and 37.

Mr. O'BRIEN: Now, at this time we will offer in evidence all of these exhibits, commencing with Ex. OO and down to and including the last exhibit identified, which has been marked Defts.' Ex. QQ-14—Morgan. I mean that offer to include all the exhibits between those.

Q. Now, Mr. Morgan, will you please take Ex. QQ-1, and explain each exhibit in turn down to Ex. QQ-14?

A. In describing these estimates they are understood to

relate to only that part of the Northern Pacific System in the state of Minnesota.

The MASTER: Is that true of all these exhibits?

WITNESS: Yes. Ex. QQ-1 is a statement of the cost of reproduction of the physical properties of the Northern Pacific Railway Company, including the multiples on lands for right-of-way, yards and terminals and adaptation and solidification of roadbed. This exhibit shows the name of the railroad, the cost of reproducing the physical properties as of June 30, 1907, and the distribution of the cost of reproduction for mileage in Minnesota on the basis of main-line roadway, on the basis of all main tracks and on the basis of all tracks, showing the mileage under each heading and the cost of reproduction per mile under each heading. Ex. QQ-2 is a statement of the present value of the physical properties of the Northern Pacific Railway Company, including multiples on lands for right-of-way, yards and terminals and adaptation and solidification of roadbed. This statement is prepared exactly as Ex. QQ-1, except that the basis is the present value of the physical properties taking into account the depreciation due to wear and tear by time and use. Ex. QQ-3 is a statement of the total acreage and total cost of reproduction of all lands for right-of-way, yards and terminals, including multiples on lands for right-of-way, yards and terminals. It gives the name of the railway, the number of acres and cost of reproducing the right-of-way, the number of acres and cost of reproducing station grounds, the number of acres and cost of reproducing gravel-pits; the number of acres and cost of reproducing the terminals of St. Paul, Minneapolis and Duluth, and the totals for all of these different classes of property owned. Ex. QQ-4 is a statement of the acreage and cost of reproduction of the Northern Pacific Railway, per mile, including the multiples on lands for right-of-way, yards and terminals; it gives the name of the railway, the miles of main

line roadway, and the average cost of reproduction per mile of main line of roadway for the different classes of property owned; covering the right-of-way, station grounds, gravel-pits, and a summary of those three classes of property; then the terminals of St. Paul, Minneapolis and Duluth, and the total of all lands per mile. Ex. QQ-5 is a statement of the reproduction cost of the Northern Pacific Railway owning terminal lands in St. Paul, Minneapolis and Duluth, showing reproduction cost inclusive and exclusive of terminal lands in these cities, including the multiples on lands for right-of-way, yards and terminals, and adaptation and solidification of roadbed. This table gives the name of the railway, the number of miles of main-line of roadway, and the total cost of reproduction, under columns 1 and 2, inclusive of terminal lands; under columns 3 and 4, exclusive of terminal lands; and the last column is the difference due to including and excluding the terminal lands in St. Paul, Minneapolis and Duluth. Ex. QQ-6 is a statement showing the cost of reproducing the terminal lands of the Northern Pacific in the cities of St. Paul, Minneapolis and Duluth, including the multiples on lands for right-of-way, yards and terminals; it gives the name of the railway, the number of acres of ground owned in these three cities; the total cost of reproduction and the cost per acre. Ex. QQ-7 is a statement of the locomotives on the Northern Pacific Railway, apportioned to Minnesota on an engine mileage basis for the operating divisions that are either wholly or partly within the state; it gives the name of the railway, the total cost of reproducing the locomotives and the cost per mile for main-line roadway, for all main tracks and for all tracks.

Mr. BUTLER: May I ask, at that point, what period the engine mileage basis is taker for?

WITNESS: June 30, 1907.

Mr. BUTLER: That is for the year ending June 30, 1907?

WITNESS: For the year ending June 30, 1907.

Q. I notice in the caption of this table the statement "Same for Ex. B."

A. Yes.

Q. By that you mean that, so far as this table is concerned, the question as to the use of the multiple does not enter into it?

A. Correct; for adaptation or solidification, those items which were affected by the other estimate do not affect this statement for either estimate; that is, it is the same for both estimates.

Q. In other words, the question as to the use of the multiple applies only to the item of lands?

A. That is correct.

Q. And the question as to the propriety of an allowance for adaptation and solidification of roadbed applies only to the actual roadbed of the Railway?

A. That is correct.

Q. Of course, except as the amount allowed for those two items affects the items which are based upon a certain percentage of those items?

A. Yes. Table Ex. QQ-8 is a statement of the passenger train equipment apportioned to Minnesota on a car-mileage basis.

Mr. BUTLER: Is that the same period?

WITNESS: The same period. Which is the same for estimate "B." It gives the name of the railroad, the total cost of reproduction and the distribution of cost on a mileage basis for main-line roadway, all main tracks and all tracks.

Q. This table applies equally as a detail for Ex. OO?

A. Correct.

Q. And the same is true of Ex. QQ-7, that also is a proper detail for Ex. OO?

A. That is correct. Ex. QQ-9 is a statement of the freight-

train equipment apportioned to Minnesota on car-mileage basis, which is the same for estimate "B," which is the same for Ex. OO. It gives the name of the railroad, cost of reproduction and distribution of cost on the basis of main-line roadway, all main tracks and all tracks. Ex. QQ-10 is a statement of miscellaneous equipment of the Northern Pacific, apportioned to Minnesota on car-mileage basis, and is the same for estimate "B" and Ex. OO. It shows the name of the railway, the cost of reproduction and the distribution of cost on roadway mileage, main-track mileage and all track mileage. Ex. QQ-11 is a statement showing the cost of reproducing the passenger equipment, freight equipment and miscellaneous equipment, as listed by the Northern Pacific Railway and applied to Minnesota on the basis of relative car mileage, and is the same for estimate "B" and Ex. OO. It shows the name of the railway, the cost of reproducing the passenger equipment for the System and its proportion to Minnesota, and the percentage of cost assignable to Minnesota; the freight equipment, the total cost for the System, and the proportion assignable to Minnesota and the percentage cost. Miscellaneous equipment—there is no report given for the System, but for Minnesota it shows the cost of reproduction. I should like to make this special mention in respect to Table QQ-11, which I have just described. The total cost of reproducing the passenger equipment and freight equipment on the Northern Pacific for the System as given here, I would like to qualify to this extent, that it may not represent all of the equipment, or the total cost of reproducing the equipment, on the Northern Pacific System, but it does represent the equipment that they reported to me in connection with this valuation; and it may not represent all of their equipment for the reason that certain equipment of this class is assigned to particular divisions of the road and never does come into Minnesota, so that, with that qualification, I would like to have

it understood that this estimate here of $6,617,457.17, for passenger equipment, and $34,912,290.09, for freight equipment, does not necessarily represent the cost of reproducing all of their equipment on the System.

Q. As I understand, Mr. Morgan, what you desire to make plain is that you are not claiming that the total equipment, either freight or passenger, is your idea of the total equipment owned by the Northern Pacific Railway Company?

A. That is the idea; I don't want to presume to go outside of the state of Minnesota any more than is necessary.

Q. But it is the total equipment reported to you and which you have found in the state of Minnesota?

A. Well, upon which I have found a proportionate value.

The MASTER: That is, when you speak of Minnesota's proportion, that is exactly what you found?

WITNESS: That is based—

The MASTER: Or is it based on what they reported?

WITNESS: It is based upon what they reported, with certain corrections that we found necessary to make; the equipment of a great interstate road is not assigned to any particular division; for example, the freight cars run indiscriminately, and that is so to a considerable extent with the passenger equipment; and, in the total cost of reproducing the equipment on the System which they have reported, and the proportion to Minnesota, there may be some equipment, for example, out in Washington or in Dakota or in Montana, that operates exclusively on the branch lines there and never gets into Minnesota. So that this $1,617,000 may not be all of the equipment, but it is all of the equipment in which the state of Minnesota would be interested so far as arriving at an assignment to this state. Ex. QQ-12 is a summary of equipment, giving the total cost of reproduction for Minnesota and cost per mile. This is the same for Estimate B or Ex. OO. It gives the name of the railway, the total cost of

reproduction, and distribution of cost on the basis of main line roadway, all main tracks and all tracks. Ex. QQ-13 is a statement of the grading, clearing and grubbing on the Northern Pacific Railway, which is the same for Estimate B or Ex. OO. It gives the name of the railway, the number of cubic yards and cost of the earth-work, the number of cubic yards and the cost of the loose rock, the number of cubic yards and cost of the solid rock, and the acres of clearing, the acres of grubbing and the total cost for the Northern Pacific System in Minnesota. Ex. QQ-14 is a statement showing the estimated cost of reproducing the lands used for right-of-way, yards and terminals, and the average ratio to the true value for the Northern Pacific Railway. It shows the name of the railway, the lands for right-of-way, yards and terminals, and in column 1 it gives the total value of lands for railway purposes. Column 2 gives the total true value of lands, for the transfers and from the sales made. Column 3 gives the average ratio of true value to value for railway purposes. There is a note in this statement which shows that column 1 corresponds to my Estimate "A" on Ex. QQ. Column 2 corresponds to Estimtae "B" or Ex. OO. That note in respect to column 3 does not necessarily belong to this particular estimate. This was taken out of the summarized statement in respect to all of the roads in which the ratios varied, and were different for different roads, and that was due to the fact that some roads owned terminal lands and others did not, and it very materially affected the ratio, but it is not necessary to show that here.

MR. DURMENT: Then that ratio has no reference to the Northern Pacific property at all, alone, as I understand it?

WITNESS: That Note 3 has no particular reference to the Northern Pacific.

The MASTER: Should that come out of this exhibit?

WITNESS: I think it would be just as well to take that out.

Mr. DURMENT: Well, not unless you take out Column 3, too.

Mr. BUTLER: Put in the key, and then it is necessary, then it is applicable.

Mr. DURMENT: Well, if I understand it right, the note No. 3 has no place there if column 3 hasn't; if column 3 has, then the Note 3 has a place there.

Mr. BUTLER: The figures in column 3 are the result of a division of the figures in column 1 by the figures in column 2; am I right?

WITNESS: That is correct.

Mr. HOW: The note, Mr. Durment, simply compares column 3 in the Northern Pacific report, to column 3 of the Great Northern, the Omaha, and so on. Am I right, Mr. Morgan?

WITNESS: I beg pardon?

Mr. HOW: I say the note, the third note, simply compares column 3 in Ex. QQ-14 to the same column in your report with regard to other railway companies?

WITNESS: That is correct, and that was the reason that that was inserted, and I hadn't noticed, in preparing this table, that it had been included here, or it would have been stricken out. It doesn't cut any particular figure, because it was a comparison between different roads, and there is a variation in respect to the relation the multiple bears to the different roads.

Mr. DURMENT: Well, let it stand; we may want it. It can't hurt anybody if we understand it. We will look at the other roads and see what they show. They may be worth something.

Q. I now call your attention to Ex. OO, and call your attention to the item 29, adaptation and solidification of roadbed, $1,613,612.26; that is the amount which, in your judgment, the roadbed has appreciated in value since its construction?

A. It represents to my mind what it would cost, or a part of the cost, of reproducing the equivalent of the Northern Pacific Railroad.

Q. Is that the amount which, in your judgment, the roadbed has appreciated in value since its construction?

A. Yes.

Q. That appreciation has come about from the use of the roadbed, its gradual adaptation and strengthening by the work done upon it by the section men and the gradual solidification of the roadbed itself?

A. Yes, that covers part of it.

Q. Did you hear Mr. Elliott's testimony as to how a roadbed gradually became better adapted for the use of the road?

A. No.

Q. I don't know whether he used the term, but you might say "how it gradually found itself."

A. I don't think I heard that part of his testimony.

Q. The fact that the drains or ditches were gradually adjusted to meet the situation, the culverts adjusted so as to be sufficient to carry off the water and protect the roadbed, the gradual improvement in the grades that were made and the gradual improvement that was made in the grade by the work of the section men that was done. Now, have all of those considerations entered into this question of adaptation and solidification?

A. Yes, they do, in a way. I have, in my report to the Commission, expressed myself on that subject as completely as I know how, and perhaps it might be well for me to read what I have stated to the Commission on that.

Q. Mr. Morgan, I am simply asking you for certain facts in this matter, and if you can answer those questions I wish you would. As I understand this item of solidification and adaptation, it is the gradual improvement in the roadbed which comes from its use and being worked over and the

material and ballast working into the roadbed and gradually hardening and becoming adapted to the use; isn't that it?

A. Yes. You put the question to me in such a way that you don't leave me much chance to answer it. If you will let me make a statement from my report here, I can cover everything you want.

Q. I am not going to try to prevent your making any statement, Mr. Morgan, and if you have got a better statement there that you want to make, you can make it. That working of the roadbed and improvement of the roadbed is done by the employes of the Company, is it not?

A. Yes.

Q. And is a part of the operating expenses of the Road, is it not?

A. Yes.

Q. And from the use of the road itself and from the work that is done upon it by the employes, the roadbed gradually appreciates in value?

A. Yes.

Q. And, in your judgment, this roadbed has appreciated in value to the extent that you have stated here?

A. That is right.

Q. Now, because it is a proper matter for the Court to consider whether or not the value of that improvement should be included in the amount upon which the Company is entitled to a return, and because you have desired to show all of the bases which might be taken by the Court for the purpose of estimating a return, you have deducted that amount in a note at the bottom of Ex. OO?

A. Under your direction.

Q. Yes, under my direction. And if it hadn't been for my direction your tables originally would not have shown that?

A. Would not have shown it where?

Q. In this foot-note.

A. No.

Q. And if it hadn't been for my direction, your tables, as originally prepared, would not have enabled the Court to have seen just how much less the value of the roadbed would have been if that item had been deducted?

A. No.

Q. So that the result of my direction has been, that if we are correct in our view of the law, the Court will now be enabled to ascertain the true basis?

A. Correct.

Q. That item, or the value included in that item 29, is one that only comes through lapse of time and from the use of the road?

A. That is correct.

Q. I call your attention to item 30, Ex. OO, "Engineering, superintendence and legal expenses, four and one-half per cent." My recollection is that that is a smaller allowance for those expenses than contained in Mr. Darling's Ex. 2, on behalf of the Complainant. Is that right?

A. I can't say as to that. It is the sum that has been returned to the Commission in its report on the cost of reproducing its properties.

Mr. DURMENT: Returned by the Northern Pacific?

WITNESS: Yes.

Q. Calling your attention to item 30 in Ex. OO, "Engineering, superintendence and legal expenses, four and one-half per cent," did I understand you to say that that is the amount claimed by the Northern Pacific Railway Company in its report to you?

A. It is. It is the same percentage.

Q. Item 37, contingencies, 5 per cent on total of items 1 to 36.

A. Yes.

Q. Is that the same percentage as was reported to you by

the Northern Pacific?

A. No.

Q. What percentage was claimed in the report to you?

A. Ten per cent, in the report of the Northern Pacific submitted to me.

Q. Calling your attention to Complainant's Ex. 3—Darling, I find an item, "Engineering three per cent," and "contingencies ten per cent." Under what head in Ex. OO do those items appear?

A. Engineering appears under item 30; contingencies appears under item 37 of Ex. OO.

Q. The total percentage allowed for engineering, superintendence, legal expenses and contingencies in Ex. OO is 9½, is it not?

A. Correct.

Q. And the total amount claimed for engineering expenses and contingencies in Complainant's Ex. 3—Darling is 13 per cent?

A. Correct.

Q. In Ex. 3—Darling, engineering expenses three per cent, is computed upon equipment as well as upon items 1 to 29?

A. Yes.

Q. That is, you have computed the engineering expenses upon the total of items 1 to 29?

A. Correct.

Q. While in Complainant's Ex. 3—Darling those expenses are computed upon the totals of items 1 to 29 and 31, 32, 33 and 34, as shown in Ex. OO?

A. Correct.

Q. Now, will you please give your reasons for omitting in your computation of this amount, items 31, 32, 33 and 34, all of which relate to equipment?

A. I do not think that engineering, superintendence and legal expenses is proper to be allowed for the purcha[illegible] or

concerning the reproduction cost of locomotives, passenger equipment, freight-car equipment and miscellaneous equipment. It is customary, in making up an estimate for constructing a line, to allow for engineering, superintendence and legal expenses, but I did not consider that it was right, believing that prices which we had applied to that equipment were sufficient to cover all incidental expenses, and there is no engineering particularly connected with it upon which there would be justification for adding four and one-half per cent. There might be some slight superintendence, some slight legal expenses. As I say, I believe the estimate that I have prepared is sufficient to cover those, and I don't think, in making up an estimate on the cost of reproduction, that the percentage should be allowed on those items.

Q. Will you explain how you arrived at the proper percentage used in item No. 30, four and one-half per cent?

A. There are some of these things that have been done deductively. Probably no one can estimate with mathematical exactness what the percentages should be, but in order to arrive at this in an intelligent way, I listed the percentages on this item that had been turned in by the various railway companies that had submitted reports for this appraisal. I found one railroad that showed .88 of one per cent; one railroad that showed 1.3 per cent; one railroad that showed 4 per cent; eleven railroads that showed 4½ per cent.

The MASTER: In their reports?

WITNESS: In their reports. Four railroads that showed 5 per cent; one railroad that showed 5½ per cent; one railroad that showed 5.7 per cent; one that showed 6 per cent; four that showed 10 per cent, and two that showed 15 per cent. The consensus of opinion from these different reports seemed to show that 4½ per cent, for engineering, superintendence and legal expenses, was a fair rate to apply, and for that reason we adopted that rate.

Q. Item 37 of Ex. OO is contingencies, 5 per cent on total of items 1 to 36; in Complainant's Ex. 3—Darling, the amount allowed for contingencies is 10 per cent. Will you please state why you concluded that the proper allowance for contingencies should be 5 per cent?

A. We made the same comparisons in respect to the item of contingencies that we did in regard to engineering, superintendence and legal expenses. It was a matter, however, upon which there was a much wider difference of opinion than there was in respect to engineering, and I entertained my own individual views in respect to that which I should like to explain to the Court. Six roads showed 5 per cent; six roads showed 5½ per cent; making twelve roads showing about 5¼ per cent on an average; seven roads showed 10 per cent, and three roads showed 15 per cent. I should like to explain why I adopted the 5 per cent in doing that.

Q. I asked you that, Mr. Morgan, and I wish you would explain that just as fully as you can.

A. I have stated my reasons in my report to the Commission on this valuation, from which I will read, under the head of "Contingencies":

"In preparing estimates for the cost of the construction of a projected line of railway it is customary for engineers to add a percentage to the estimated cost to cover unforeseen conditions that develop in the execution of the work.

"The preliminary field-work and surveys upon which these estimates are based is usually hurriedly made; very little, if any, time is given to considering the character of the material to be encountered in the grading other than a very rough, and necessarily uncertain, classification of it, or of the character and extent of the water courses and drainage areas, and, except for the very important bridges, little information is at command as to the requirements for foundations, etc., so that with these and other factors, representing

an indeterminable element of cost, there is every justification for a contingent item, both in theory and in practice.

"Engineers differ as to the percentage to be added to estimates of cost. In many cases they are governed by their own experiences, but the usual amount added for projected lines is ten per cent of the estimated cost. This amount is sometimes ample and in other instances it has proved not nearly sufficient to cover the contingencies met with in the construction of the line.

"The estimates I have prepared of the railroads of Minnesota are not for projected lines of railway, but for the reproduction of existing railways, in which many of the contingencies met with in the original construction and in the development of the properties during the past thirty years have been made known to me by officers of the respective companies associated with the construction and development of the properties.

"From the careful examination made of the lines and from a study of the original construction profiles, I was enabled to observe the truthfulness of the representations made to me of difficulties encountered and expenditures made in constructing and perfecting the lines, and it was possible to include under their proper headings many things which otherwise would have been unknown and consequently disregarded in the estimate of reproduction cost.

"The character of the material encountered in the grading is exposed to inspection on all parts of the lines; the extent and character of the water courses and of the drainage areas are known, the bridges, trestles and culverts are established to fit these conditions, and the character, quality and quantity of the construction is known from the records of the company and from the examination and computations made of them.

"Considering the detail with which the estimates have been

prepared and the inclusion in them of many items of a contingent nature, it does not appear justifiable to consider an estimate of the cost of reproducing a railroad as synonymous with an estimate for constructing a projected line. The essential difference rests in the fact that in reproduction cost the estimate is prepared in the light of known conditions, whereas, for a projected line the contingencies are wholly unknown. These facts have been instrumental in reaching a determination that 5 per cent for contingencies is fair under the circumstances attaching to the work of this appraisal."

Recess until 2 o'clock P. M.

AFTERNOON SESSION.

Q. In stating that you arrived at the percentage of four and one-half, making up item 30 in Ex. OO, you referred to a certain compilation which you had made as to the claims of the different companies upon that question.

A. Yes.

Q. Now, will you please give the claims, as made, giving the name of the company?

A. Under the head of Engineering, Superintendence and Legal Expenses, which is item 30 in Ex. OO, and in which I have allowed four and one-half per cent, the following table shows the percentages allowed by each of the railway companies: Four and one-half per cent was presented by the Chicago, Burlington & Quincy, by the Chicago, Milwaukee & St. Paul, by the Chicago & North-Western, by the Chicago, St. Paul, Minneapolis & Omaha, by the Duluth Union Depot & Transfer Company, by the Great Northern Company, by the Minneapolis Eastern, by the Minneapolis Union, by the Minneapolis Western, by the Northern Pacific and by the Wisconsin Central.

Q. Now, go on with the other companies. Was that the lowest amount claimed?

A. No; five per cent was presented by the Chicago, Rock Island & Pacific, by the Minneapolis, St. Paul & Sault Ste. Marie, and by the Minneapolis & St. Louis and Illinois Central; five and one-half per cent by the Duluth & Northern Minnesota; 5.7 per cent by the Minneapolis, Red Lake & Manitoba; six per cent by the St. Paul Union Depot; ten per cent by the Chicago Great Western; ten per cent by the Mason City & Fort Dodge; ten per cent by the Minnesota Transfer; and ten per cent by the Wisconsin, Minnesota & Pacific; fifteen per cent by the Duluth & Iron Range; fifteen per cent by the Duluth, Missabe & Northern; four per cent by the Minnesota & International; 1.3 per cent by the Duluth & Northeastern; and .88 of one per cent by the Minneapolis & Rainy River.

Q. Will you please give the same information with reference to item 37, Contingencies?

A. In the reports submitted by the several railway companies in respect to contingencies, which is item 37 on Ex. OO, five per cent was returned by the Chicago, Rock Island & Pacific, by the Duluth & Iron Range, by the Duluth, Missabe & Northern, by the Minneapolis, St. Paul & Sault Ste. Marie, by the Minneapolis & St. Louis, and by the Illinois Central; five and one-half per cent was allowed by the Chicago, Milwaukee & St. Paul, Chicago & North-Western, Chicago, St. Paul, Minneapolis & Omaha, Duluth & Northern Minnesota, Minneapolis Eastern, Wisconsin Central; ten per cent by the C., B. & Q., Duluth Union Depot & Transfer, Great Northern, Minnesota & International, Minneapolis Union, Minneapolis Western, and Northern Pacific; fifteen per cent by the Chicago Great Western, by the Mason City & Fort Dodge, and by the Wisconsin, Minnesota & Pacific.

Q. In Ex. OO you have an item, the last item, appearing before grand total, "Interest During Construction, four per cent on the cost of reproduction, items 1 to 36 inclusive, except

item 29, two years." Will you explain that item?

A. In my report to the Commission, I have stated the reasons why the four cent was adopted. I should like to preface the subject of Interest During Construction with what I have to say to the Commission on that subject:

"Interest During Construction. It is not presumed to discuss the forces and influences, normal or artificial, affecting the financial features of railway construction. Reasonable effort has been put forth to ascertain such facts in respect to interest rates in actual transactions as would enable an application to the inquiry in hand.

"It is fully recognized in fact that the floating of securities for the building of railroads covers an almost unlimited range of conditions and for an hypothetical problem there is probably no unequivocal proof in support of any one given basis of computation, which fundamentally in its practical workings requires those solid evidences of good faith and sincerity as enable agreement in respect to the terms of exchange.

"In the light of such data as appeared to reflect the normal condition of the money market, aided by the consensus of opinion as expressed in the reports of the railway companies, seemed to justify four per cent per annum as a fair rate of interest to apply to the estimated cost of reproduction.

"If, during the period of prosperity prevailing up to the date of this report, a railway property possesses so little intrinsic merit as to be unable to command normal rates of interest, it may very properly raise the question, for the present at least, of its expediency as a utility; however, it must also be considered that in the history of railway construction, the acknowledged pioneer and forerunner of development, expediency from the standpoint of investment has seldom proved the immediate reciprocal of enterprise. This is amply attested by the bones of many fortunes underlying railway construction, the very foundations upon which the properties

have subsequently proved the wisdom of a foresight and energy so keen and so far in advance of the times that the credit ultimately bestowed or the benefits earned, fell neither to the originators nor to their descendants.

"The rate of interest as established is applied to the total estimated cost of reproduction assuming that the necessary funds would be fully employed one-half of the estimated time required to build the respective lines, which according to their mileage varied from one to eight years."

In the case of the Northern Pacific we estimated that it would require four years to construct that System in this state, and, allowing four per cent interest as a basis, we allowed the full rate of four per cent for two years' time, which is equivalent to the employment of all of the capital necessary for one-half of the time, it being assumed that the money would be obtained as required. The different roads furnished the following data in respect to interest during construction: One per cent, Chicago, St. Paul, Minneapolis & Omaha. Three per cent. Chicago, Milwaukee & St. Paul; Chicago & North-Western; Duluth & Northern Minnesota; Minneapolis Eastern; Minneapolis, St. Paul & Sault Ste. Marie; Minneapolis & St. Louis; Wisconsin Central; Illinois Central. Five per cent, Duluth & Iron Range; Duluth, Missabe & Northern. Five and six-tenths per cent, Minnesota & International. Six per cent, Duluth Union Depot; St. Paul Union Depot. Nine and one-half per cent, Chicago, Rock Island & Pacific. Eleven per cent, Chicago Great Western; Mason City & Fort Dodge; Northern Pacific; Wisconsin, Minnesota & Pacific. Twelve per cent, Chicago, Burlington & Quincy; Duluth Union Depot; Minneapolis Union, and Minneapolis Western. There was one road that put in one per cent; eight roads that put in three per cent; five roads that put in five per cent; one road that put in five and six-tenths per cent; two roads that put in six per cent; one road that put in nine and one-half per

cent; four roads that put in eleven per cent—

Mr. HOW: That is the aggregate amount of interest and not the annual rate, of course?

WITNESS: Yes. —and four roads that put in twelve per cent.

The MASTER: Did I understand you to say that you took as a basis one-half of the time required for construction?

WITNESS: Yes; one-half the time required for construction.

Q. What do you mean by saying that the amount of the interest as given by the roads is the aggregate interest, Mr. Morgan?

A. That is the total that has been put in by each road under the head of "Interest During Construction."

Q. Now, in this item of yours, "Four per cent on the Cost of Reproduction, items 1 to 36, inclusive, except item 29, two years," are we to understand that you have added eight per cent?

A. Eight per cent.

Q. You have added eight per cent?

A. Eight per cent.

Q. That is, your rate per annum is four per cent?

A. Yes, sir.

Q. And you estimate that the time occupied in construction would be four years, and that one-half of that time should be taken as the period during which the capital would be idle?

A. That is correct.

Mr. BUTLER: It would be two per cent for the full period, or four per cent for half the period?

WITNESS: That is correct.

Mr. DURMENT: What in the aggregate—eight per cent or sixteen?

WITNESS: No, it would be eight per cent in the aggregate.

Mr. BUTLER: And the twelve and eleven and the other fig-

ures that you have given as reported by the other railway companies, is the percentage that was actually claimed by the railroad companies to be added to the items, and was not the rate per annum, but it was one-half of—

WITNESS: It doesn't show how long.

Mr. BUTLER: Then it doesn't show how it was gotten at?

WITNESS: It doesn't show how long.

Mr. BUTLER: Do you know whether twelve was the amount added or not? That would show.

WITNESS: The figures that I have read from here is the aggregate under the head of Interest during Construction. How that was divided by the respective roads was immaterial to me.

By Mr. DURMENT:

Q. Well, you don't know, then, whether that twelve per cent, for instance, that was added by one road you mentioned there, was at the rate of three per cent per annum or two per cent, or four per cent, or six per cent; all you know is that the aggregate is twelve, is that it?

A. The aggregate is twelve per cent.

Q. And you have no way of finding out from their report whether they figured it at two or three or four per cent, or what per cent they did figure it?

A. No, I can't tell from their reports.

Q. And your aggregate is eight per cent?

A. My aggregate is eight per cent.

Mr. BUTLER: For the Northern Pacific?

WITNESS: For the Northern Pacific, yes.

Mr. HOW: Your aggregate varied with the different roads, I take it?

WITNESS: According to the time required to construct.

By Mr. O'BRIEN:

Q. I desire before going into this matter in detail to again call your attention to item 29, Ex. OO, Adaptation and Solidi-

fication of Roadbed, and would be glad if you would explain exactly what is included in that item and how it was made up by you.

A. I think I can explain that to the Court better by reading from my report on that subject.

"ADAPTATION AND SOLIDIFICATION OF ROADBED was considered separately by but one railway company making an estimate. In most instances, however, the prices employed by the railway companies are regarded as sufficiently high in themselves to give recognition to this element of cost.

"In the preparation of estimates of the cost of constructing railroads, engineers may very well differ in the distribution of the expenses. This was manifestly true of the estimates of the cost of reproducing the railroads of Minnesota as submitted by the several railway companies.

"It appears to be a well-established fact that in constructing a railroad, the engineer is seldom, if ever, permitted to fully complete his work before the actual operation of the line is undertaken. The investment in the project is large and it is important to start an income account just as soon as the construction work has advanced sufficiently to permit it. Therefore, upon the opening of a new line for the purposes of transportation, it cannot be assumed that with the inauguration of service the property represents a finished product.

"The newly made excavations wash and slip, the ditches fill from the action of the elements, the embankments settle and the track superstructure is in almost constant need of attention; resurfacing, lining and dressing of ballasted and unballasted track is necessary, waterways become clogged up, bridges settle or go out of line, station grounds are to be improved and finished, scattered and unused material must be picked up and stored; in fact, all the loose ends which are the immediate sequence of construction must be gathered

in and the property brought to an orderly condition.

"These items cannot be regarded as contingencies, because they are not unforeseen, but, on the contrary, they are expected and encountered in the development of every railway, and should, therefore, be recognized as a part of the expense attributable to reproducing the equivalent of an established line, possible of accomplishment only in proper order and due course of time.

"Adaptation in its application to the problem of reproduction cost is the adjustment of the physical line to its environments and purposes. Solidification of roadbed is its settlement to a stable condition. The terms are closely related to each other, yet neither in itself gives adequate expression to or clearly defines the meaning and scope of the application.

"Cost of reproduction, as given interpretation in this appraisal, has been taken to imply that the property to be reproduced must be considered in the light of its perfectness, of its stability and its fitness as a working tool.

"If in preparing such an estimate, fair units of cost are applied to the elements entering into the construction of the line up to the time it becomes available for use, it is apparent that the already established line has, in addition thereto, the expenditures of seasoning, which it is impossible to incorporate in the accounts of any newly constructed railroad. Bearing in mind that equivalent conditions are sought, possible only in the progress of time, it seemed desirable to consider this element of cost separately because it avoids disturbing normal construction costs and provides for the policing of the line until such time as, it may be reasonably regarded, the property is unaffected by the deficiences attributable to newness.

"Based upon personal experience and observation in the care of new and of old lines of railway, and from reliably

acquired data, the item of ADAPTATION AND SOLIDIFICATION OF ROADBED, as made a part of reproduction cost has been treated as a labor account covering a period of years, the character of the construction, standard of maintenance and the service conditions determining the distribution of the expense."

In the case of the Northern Pacific we took a period of four years as a fair time to allow for the settlement and adaptation of the roadbed, and allowed one man per mile of main line of roadway for the working days, on the main lines and on the branches (when I speak of main lines I speak of the lines of the Northern Pacific from St. Paul to Staples and from Moorhead to Duluth; the balance of the System in this state was treated as branch lines on this item) and one-half man per mile was allowed for the working days of four years to take care of this added expense, which it was believed should become a part of reproduction cost when considered in the light of reproducing the equivalent of these lines.

Q. Then in preparing your estimate, after you had come to a conclusion as to the cost of construction, you added the amount found in item 29 because the road in its present condition now was better than a newly constructed road would be?

A. That is correct.

Q. This item of labor, one man per mile on the main line, and one man for each two miles on the branch line, includes the work and consists of the work that is done by what are ordinarily termed the section crew?

A. Yes.

Q. Each railroad company has a number of men working upon its track and roadbed continually, known as the section crew?

A. Yes, sir.

Q. And this estimate which you have made of the cost of labor was the labor of those men?

A. Yes; in bringing the property up to the equivalent of the existing line.

Q. And those men whose time you considered in arriving at this item form a part of the operating force of the railroad company, do they not?

A. Yes, they would, in one sense of the word, they would be a part of the operating force; at the same time their services would be utilized for the purpose of bringing this property into its present condition.

Q. Certainly, and are carried upon the pay-rolls of the railroad company?

A. Yes.

Q. And the wages paid to them form part of the operating expenses of the road?

A. Yes, during the period of four years of construction there would necessarily be operating expenses attached to it.

Q. Well, I say the wages which you have included, or the wages upon which you have based the amount of item 29, are the wages which are paid section men in connection with all other wages paid as a part of the operating expenses of each railroad?

A. Well, I hardly think it could be classed as an operating expense. We are building a railroad here that we have estimated would require four years time to do so. Now, we have got to move the construction material, we have got to operate it to a certain extent, and it would be, in one sense, an operating expense, but that operating expense would be chargeable to reproducing this property in its existing condition.

Q. Now, Mr. Morgan, I wasn't asking you that. I was asking you as to whether or not that is not included in the annual charges of the railway company for operating expenses?

A. The railroad companies maintain a section crew which is charged to operation, the operation of the line.

Q. And a part of the work of that section crew results in

an improvement of the roadbed, as you have described?

A. Yes.

Q. And that you have placed in a separate item, which appears here as item 29?

A. Yes.

Q. Mr. Morgan, I understand that you desire to correct a statement which you made with reference to your examination of the property in Brainerd.

A. Yes, I do. At the time I made the statement of the estimated cost of reproducing the lands of the Northern Pacific in Brainerd I did not have my book before me and did not at the time recall just what the differences were but took it for granted that they were the same because there were a great many places on the Northern Pacific where the estimates did agree very closely. But I found upon looking into Brainerd that we do not agree in the cost of reproduction there, my estimate being considerably less than that turned in by the Northern Pacific; and that is due to the fact that the Northern Pacific owns a very large acreage in Brainerd; their shops are located there, and this map which was submitted by the Northern Pacific shows the location of the shop-grounds, which lie well out from the town. Topographically there is a very deep ravine which runs through here, which separates this part of the town from the main part of the town.

Q. Describe it by some reference to the map, if you can, instead of saying "here" and "there."

A. The shop-grounds lie to the east in the city of Brainerd, easterly from the old St. Paul & Northern Pacific line, which extended from Little Falls to Brainerd. The ravine to which I have referred lies just easterly and almost parallel to the old St. Paul & Northern Pacific line. The valuation of the property lying between Bluff street and the river, according to my judgment, (which was arrived at deductively) was much

too high; and we reduced that as well as we did for the acreage for the shop-grounds and for the property still east of that to the corporate limits. West of the city, I think our figures are about the same. The reason that I reduced those figures was that taking into account what the Chicago Great Western had paid for its entrance into the city of Rochester, where they run parallel and one block from the main street, purchasing thirty-two acres of land at a cost of about $100,000, or $3,000 an acre. Rochester is just about the same size as Brainerd, same population. In addition to that, we considered Winona, in which the Chicago, Burlington & Quincy's reproduction cost is $6,800 per acre, and they run through the very heart of the city; the Chicago, Milwaukee & St.. Paul, $2,300 in Winona; the Chicago & Northwestern, $3,500; the Chicago-Northwestern railroad in Winona owns property along the river front, extending to all of the wholesale houses, and one block or half a block back of the main street of the city of Winona. Based upon that information, I considered that $15,000 an acre for land through the city of Brainerd, located as the Northern Pacific property is, is too high; and we reduced that, allowing $8,712.12 for the thirty-two acres of land located in the central part and where the most valuable land exists. The Boom Lake spur property, I believe, was not disturbed, nor was the property west of the river. The shop-grounds were reduced from $600 an acre to $300 an acre for the 130 acres that they own.

Q. You might explain why that reduction was made.

A. That reduction was made because the property lying east of the shop-grounds was put in by the Northern Pacific Company at $300 an acre, and I did not consider that this property, as a whole, and in a large tract of that kind, was any more valuable; the whole topography of the country was such that while this lay nearer to the city, at the same time, considering the fact that it is not a very large tract, my judg-

ment was that $300 an acre, for railroad value, would be sufficient for it.

Q. What is the property surrounding the shops of the Northern Pacific at Brainerd used for, what is the property immediately adjacent?

A. There is very little development on the north and on the east; some development on the south. It is separated by this deep gulch or ravine to which I have referred, and is really separate and distinct from the city itself. On the south there is a cheap grade of houses, no business property whatever.

Q. Mr. Morgan, I desire now to go over the items appearing in Ex. 00 in detail. I think we have sufficiently explained your general methods, and I want to take up each of these items in detail. "Item 1, Land for Right-of-way, Yards and Terminals, $9,498,099.27." I have understood from your testimony, that the first sharp conflict between the claims of the Northern Pacific Railway Company and yourself with reference to this item is because of the terminals in the large cities of St. Paul, Minneapolis & Duluth.

A. That is where the main difference is.

Q. Now, will you please explain to the Master where those differences arise, how your valuations compare as to the true values of the land, compared with the assessed value of the lands, and how the claims of the expert witnesses who have given their opinions as to the value of these lands differ from the facts as you have ascertained them. In other words, in your own way, using these maps as illustrations, just go on and tell how you arrive at what you have designated the true value, and where the discrepancies and differences exist principally.

A. That is quite a difficult question to answer extemporaneously. I have, in my report to the Commission, prepared some data in respect to terminal properties which I should

like to refer to in connection with this subject. As prefacing this statement, I may say that it is not altogether in harmony with Ex. OO, because it considers the question of multiple on lands; but it became apparent to my mind, upon undertaking this work, that some method would have to be pursued which would, as far as possible, eliminate the embarrassment which necessarily follows individual opinion as to the cost of reproducing lands owned and occupied by the railway companies. In the case of Steenerson vs. The Great Northern Railroad, which was carried through the Supreme Court of this state some ten or twelve years ago, two estimates were prepared showing the value of the terminal lands of the Great Northern Company in St. Paul and Minneapolis. This testimony came into my possession, and was probably largely instrumental so far as enabling me to determine upon some method by which these terminal values might be arrived at. Now, two sets of appraisers made estimates on the terminal lands of the Great Northern in these cities; one set of appraisers was selected by the railway companies to make the appraisal for them, the other set of appraisers was selected by the State for its presentation of the case. The respective results of those investigations show, from the testimony, that in the city of St. Paul the estimates were 272 per cent apart; in the city of Minneapolis they were 182 per cent apart.

Mr. DURMENT: Which was the larger and which the smaller?

WITNESS: The estimates for the railway companies being the larger, and the estimates for the State being the smaller.

Q. I don't exactly understand what you mean by the per cent apart; do you mean that the estimate on behalf of the railroad company was 200 per cent of the estimate made on behalf of the State?

A. Yes, 272 per cent.

Q. And in Minneapolis the estimate of the railroad com-

pany was 182 per cent of the estimate made by the State?

A. Yes. I believing that the value of these terminal lands ran into millions of dollars, it became apparent that with no foundation other than individual opinions so widely at variance one with the other, there must necessarily be more or less embarrassment in reaching the conclusion as to which estimate was reflective of values in the sense of substantial truth. Now, as I say, it was this thought that actuated me in taking up some other method by which right-of-way values could be ascertained, and which would, so far as practicable, eliminate the individual opinion, which would vary according to circumstances. Now, in the appraisal which has been made by the railroads in this investigation by the State, the true value and the right-of-way value of the lands as returned in their reports was based largely upon opinion. In the cities of St. Paul, Minneapolis and Duluth commissioners were selected by the railway companies to return, jointly for the several companies, their estimates of the value of the terminal lands. In personnel these commissioners were composed of men of high standing in the real estate business and substantial citizens in their respective communities. Therefore, the defense of the results of my own inquiries, which vary widely from the estimates returned by these gentlemen, is based upon the methods that have been employed and not the men who did the work. If the problem in hand contemplated the actual taking over of these properties, there might possibly be no alternative but to adhere to the principle that value depends upon its power to satisfy human want, in which event no economic principle can prevail that is apart from man's estimate of the want-satisfying power. We are not, however, confronted by the conditions which such a procedure would impose; but it is sought to determine what it would cost to reproduce these terminal lands, in the possession of its present owners, as measured by the value of contiguous and sur-

rounding property, primarily without reference to its present use, its indispensability for the purposes of transportation or to the strategy of location, which, when presupposed, must tend to confuse the judgment as between reproduction cost as land and what its value may be regarded because it is utilized for a particular purpose. Cost of reproduction and value as a utility have no necessary or logical relation, and the fact that the terminal lands or the properties, in part or in whole, are not actually to be reproduced, or the fact that it might not be possible at all to reproduce them or their equivalents, probably renders their possession invaluable not only to the owners but to the communities dependent upon them for the facilities afforded for industrial activity and commercial supremacy. It is not clear, however, that these elements which may very conveniently be made the basis for extremely high figures of value should either merit support or find justification in an estimate prepared to represent reproduction cost. As a further evidence of individual opinion, I would like to call the Court's attention to the conditions at the station of Fridley, in Anoka county, about ten miles north of Minneapolis. It is not incorporated. It has no business houses, and is distinctively an agricultural district. The right-of-way of the Northern Pacific and Great Northern companies adjoin and are parallel; the main tracks are about sixteen feet apart, and a small shed used jointly as a depot serves the patrons of the roads. In estimating the cost of reproducing its right-of-way within the station limits, the Northern Pacific Company made no distinction between the value of its right-of-way in the immediate vicinity of Fridley and that situated within several miles north and south of the station because no local conditions prevailed which justified a right-of-way value higher than that applicable to occupancy through the agricultural region adjoining. The Great Northern Company, in the preparation of its estimate, entertained a

different opinion as to the value attaching to its right-of-way at Fridley, and for a class of property which the Northern Pacific Company estimated the cost of reproduction at $150 per acre the Great Northern Company estimated at $3,000 per acre. In the city of St. Paul, where the value of terminal property is the work of the special commission appointed by the railway companies, I desire to call the Court's attention to the value placed on the terminal property of the Chicago, Rock Island & Pacific in the city of St. Paul. In acquiring the necessary property for its entrance into St. Paul, in 1901 and in 1902, the Burlington, Cedar Rapids & Northern Railway Company (now the Chicago, Rock Island & Pacific Railway Company) purchased a total of 45.55 acres for $137,298.55. The estimated cost of reproducing this property today, as determined from the sales method, and using the established multiple for St. Paul of 1¾, is $255,198.97. The commissioners appointed by the railway companies placed a reproduction cost or a value on this same property of $978,262.69. I would like to pursue this a little further. This is map 1, of the city of St. Paul, showing the union depot property and property owned by the Northern Pacific and by the Soo leading out of the city. In Kittson's addition, blocks 38, 39, 40 and 41 are owned by the Northern Pacific Railway Company. This property was transferred to them from the Northwestern Improvement Company in 1903 for $323,000. Applying the sales method, and using the multiple of one and three-quarters, we arrive at a value of $334,668.75, which is $11,467.75 in excess of what the Northern Pacific Company paid the Northwestern Improvement Company for that property. The commissioners who made the valuation for the railway companies, and which has been turned in to me by the Northern Pacific Railway Company, estimated these same four blocks at $915,638.17.

Mr. DURMENT: What had been the changes, if any, in the

assessed valuation of that property, in the same period, or do you know?

WITNESS: Yes; I am very glad you brought that question up, because it will enable me to explain a matter here that I had neglected. That property originally cost the Northwestern Improvement Company $451,000.

The MASTER: Approximately when?

WITNESS: That was in 1890. At that time, that property was assessed at $292,066. In 1906 it was assessed at $191,125, showing a depreciation in the assessed value of $100,941, or 34½ per cent.

The MASTER: Do you know about when the assessment was reduced to that figure?

WITNESS: I think it has been a gradual reduction, from the investigations that I made. What I want to point out at this time is, that those who are familiar with the movement of values in real estate in the city of St. Paul know that there has been a depreciation in the value of that property in lower town, and that while this property was placed in the possession of the Northern Pacific in 1903, the depreciated value of it covers a period of years, in a gradual way, to the present time, and, having been transferred to the Northern Pacific Company as late as 1903, we were justified in using that because we had covered a period of five years; and, as I show here, it cost the Northern Pacific Company $323,000, and we are estimating it at $334,000.

Q. You spoke of the Northwestern Improvement Company acquiring the property in 1890. Do you know the axact date at which the Northwestern Improvement Company got title?

A. No, I do not.

Mr. HOW: The Northwestern Improvement Company was not incorporated until two years after that.

Mr. O'BRIEN: I know that; that is just what I am going

to show.

WITNESS: It was purchased, I think, in the names of individuals.

Q. It was carried for some time in the names of individuals, before it was transferred to the Northwestern Improvement Company?

A. Yes.

Q. And the deed from the Northwestern Improvement Company to the Northern Pacific was in 1903?

A. Yes. This is a map (pointing) in the vicinity of the state university and agricultural college in the city of St. Paul. This is map No. 9, and shows how we have considered the value of the property belonging to the Northern Pacific and Great Northern in that territory. This originally brown color is the right-of-way of the Northern Pacific; this cross-hatched red is property that was bought in 1907 by the Northern Pacific Company. The cross-hatched property shows 44.67 acres, for which the Northern Pacific Company paid $54,047.75, which is at the rate of $1,209.93 an acre. Applying the sales method of arriving at the right-of-way value and using the multiple, we arrive at a value of $1,578.08, or about $370 an acre more than they actually paid for that property. The Northern Pacific Company in its appraisal submitted to me in respect to the original right-of-way above, returned a value of $3,347.30; they subsequently bought all of that lower property hatched there at the rate of $1,209 an acre. Now, that, in a general way, is the reason why I thought it desirable to adopt some method by which we could arrive at these terminal values without relying wholly upon opinion. Of course, I have realized from the start, that it is a great and difficult problem, and it cannot be treated in a small way, it must be treated on broader grounds, and no individual guess, in itself, will indicate the truth as a whole; but we have taken all of the examples that we could and could get our hands on,

try and justify the means which we have employed in arriving not only at the true value of the lands but also at the railroad value, using the multiples.

Q. Have you any other concrete examples, Mr. Morgan, which you can give at this time?

A. I have other examples, but they do not apply particularly to the Northern Pacific road; but, of course, in making up this appraisal we have considered all of the properties.

Q. Well, in coming to your conclusion as to the propriety of using the sales-method, and in coming to your conclusion as to the value of the terminals of any road, you have necessarily taken into consideration the real estate and terminals belonging to other roads, have you not?

A. I have.

Q. Now, what I want you to do is to justify the use of this sales-method, and if you have an illustration of some other road of the same character as the one that you have given with regard to the Northern Pacific, I would be very glad to have you go on and take all the time that you desire to explain why you have adopted this method. Give the reasons "for the faith that is in you," in other words.

A. The Minneapolis & St. Louis and Sault Ste. Marie bought a terminal entrance into the city of St. Paul, consisting of about 43.97 acres. Part of the property purchased by the Soo Company is shown in red on map 1 (pointing). The purchase price of that property and other property beyond, by the Soo line, consisting of a total of 43.97 acres, was $439,168. Applying the sales-method to that same property, we arrive at $418,956, which is a little less than the cost to the Soo line. The cost to the Soo line, however, included interest at five per cent, amounting to a considerable sum of money. Now, if we add the percentage that we have allowed in our appraisal for legal expenses and contingencies, we arrive at a valuation of $458,757, which is about $19,000 in excess of the

purchase price of this property.

Mr. DURMENT: When was this property bought?

WITNESS: It was bought in 1903 and 1904, and some of it was bought, I think, a little bit later than that.

Q. You did not say whether, in arriving at the final value as given by you now on that property, the multiple was used.

A. It was.

Mr. BUTLER: That is, your figure $418,956 includes the 75 per cent multiple?

WITNESS: Yes.

Mr. BUTLER: That is, you took the sales method to get the actual value and multiplied it by 1¾?

WITNESS: That is correct. In the city of Minneapolis, we took into account what is known as the Plymouth avenue property of the Omaha road, which lies north and west of Plymouth avenue, next to the river. That property was bought in 1901 and 1902, and the Omaha road paid for 21 acres of land on Plymouth avenue, for its Plymouth avenue yard, $257,400. Applying the sales-method to this property, we arrive at a value today of $310,452.01; which is, of course, practically $50,000 in excess of what they actually paid for the property.

Q. Are you going to give us what the appraisers of the railroad company returned that for?

A. The commissioners appointed to return a value on these properties for the railway companies returned, on this same property, $1,135,620. Now, I should like to state this: that if these properties are to be considered in the light of utility, I would probably not be in a position to criticise whatever figures might be turned in by the railway companies. It would be very difficult; I couldn't in any way estimate the value of these terminals on the basis of a utility, and it appears to me that when individual opinion is utilized it is very difficult to consider these properties as lands and eliminate

the fact that they are utilized for a particular purpose, and for that reason I sought to get away from it.

By Mr. DURMENT:

Q. Mr. Morgan, I am not quite certain that I understand the sales-method; I would like to see if I have got it right. As I understand you, in St. Paul you took, along in the vicinity of these railroad properties, a large number of cases where, from the records or other sources, you obtained the actual prices which had been paid in transfers between individuals in a period of five years?

A. Yes, sir.

Q. You then took for the same properties the assessed values as given in the public assessment for taxation?

A. Yes.

Q. And from that you arrived at the conclusion that, for the purpose of transfer between individuals and ordinary every-day transactions, the value for assessment purposes, on the average, was about 60 per cent—

A. Yes.

Q. —of the sales-price between individuals?

A. Yes.

Q. And that is what you term the true value?

A. Yes.

Q. That is considering it at that, you checked that in determining the accuracy or fairness of your estimate of 60 per cent?

A. Yes.

Q. You also examined the report made by the committee appointed by the common council to investigate the same subject?

A. Yes.

Q. They examined a large number of transfers in the city of St. Paul, and their conclusion was (I don't remember the exact figures) that the assessed value, as a rule, was about

60 per cent of the transfer or selling price between individuals during that period?

A. Yes.

Q. That you then also checked up, for the purpose of verifying your conclusion, the work of the state tax commission, which had examined, I think you said, something like 10,000 different instances in the city of St. Paul?

A. Yes.

Q. And they had arrived at the conclusion that, on the average, the assessed value of the property in St Paul was 57 to 60 per cent of the selling price between individuals?

A. Yes, about 57½ per cent.

Q. And upon that you concluded, assuming that the assessed valuation of property was 60 per cent of the value for transfer between individuals, was a fair rule?

A. Yes.

Q. As between individuals?

A. Yes.

Q. Now, I understand that you also followed the same plan as to terminal properties in Minneapolis?

A. Yes.

Q. For testing the value or fairness of your rule of arriving at actual values?

A. Yes.

Q. And that then, when you came to consider railroad property, you got what you term the actual value or true value, or the selling price between individuals, and then you figured that, for railroad purposes, there should be added an additional sum?

A. Yes.

Q. Which you have made at 75 per cent of the actual or true value?

A. In St. Paul, and 1.6 in Minneapolis.

Q. But I want to get the method.

A. Yes.

Q. But your investigations for the purpose of determining the rule to apply was the same as to Minneapolis property as to St. Paul property?

A. Yes.

Q. Now, that was your own investigation as to Minneapolis and the state tax commission. Was there any other body that had examined over there as there had been in St. Paul—

A. No.

Q. —that you availed yourself of?

A. No; I talked with the assessor in Minneapolis, had a long conference with him, in regard to the subject of taxation there.

Q. But you took into account, also, in arriving at your own conclusion, actual sales as disclosed by the record and other information you got?

A. Yes.

Q. I understand the rule you have applied now, and the basis of it. I understood you to say that this commission appointed by the common council of the city of St. Paul, that arrived at about the same conclusion you did as to the relation between the assessed value and the value for transfer between individuals, examined something like ten thousand different tracts in arriving at their conclusion?

A. No, not so many as that.

Q. How many, if you know?

A. 2,654.

Q. Well, I think you stated the number of different tracts in St. Paul that the state tax commission examined in arriving at their conclusion?

A. Yes.

Q. That the relation was 57½ per cent for assessment purposes to what you term the true value?

A. Yes.

Mr. BUTLER: That was the percentage in Minneapolis, if I remember.

WITNESS: No, 57½ in St. Paul by the tax commission.

Q. Now, how many different tracts did they examine in arriving at that? I think you stated.

A. I stated; it was something over 10,000.

Q. Well, if it was over 10,000—

A. It was over 10,000 that was considered by the tax commission.

Q. And how many different tracts did they examine in Minneapolis, or did you say?

A. Yes, 11,352 transfers in Minneapolis; in St. Paul 10,547.

By Mr. O'BRIEN:

Q. What about Duluth?

A. Over 4,000.

Q. Now, while we are on that subject, and that has been brought up again, state how many transfers and tracts have been examined by you during the course of this work or upon which you have received reports.

The MASTER: In the terminals, St. Paul, Minneapolis and Duluth?

Mr. O'BRIEN: In the terminals, St. Paul, Minneapolis and Duluth.

A. I never have made up any figures as to how many I considered individually. I answered that question, once before by stating that I had taken into account sufficient transfers to amount to something over a million and a half dollars that were confined within the subdivisions in which the Northern Pacific owned property.

Mr. DURMENT: That is, was that million dollars in St. Paul alone or in St. Paul and Minneapolis?

WITNESS: In St. Paul alone.

SPOTS O

Q. Well, could you give us an idea of the number of separate tracts examined and considered by you in these three cities?

Mr. BUTLER: You mean the assessments or transfers, Mr. O'Brien?

Mr. O'BRIEN: I mean either. I mean the number of separate tracts examined or considered by him.

Mr. HOW: Of whatever size?

Mr. O'BRIEN: In this investigation.

A. They ran into a great many thousand. If time can be given and I am permitted to answer that question later, I can go through the records and find out just how many we did consider. All of the property in these cities has been considered by individual tracts according to their extent and in the way in which they have been assessed, and, of course, it runs into a great many thousands.

The MASTER: Would that include an inspection of the tracts themselves?

WITNESS: No, other than a general familiarity; a good deal of it has been inspected incidentally, in connection with other work.

Q. All of the railroad property has been personally inspected?

A. Yes.

Q. And in the course of the inspection of the railroad property you necessarily became familiar with property upon each side?

A. Yes.

Q. Is it not true that there is considerable inequality in the different assessment districts in the assessments placed upon them?

A. Yes, it is.

Q. Well, how, then, do you arrive at the conclusion that you can ascertain the true value in the method you have

S ON PAGE

described?

A. In a problem as large as this, it is not possible to go into the ultra-refinements of the subject. We have endeavored from our investigations to arrive at just and fair ground upon which to consider it. There was quite a variation in the respective assessment districts, but an analysis of those variations will show that if I had used the exact ratios in each of the assessment districts I would have arrived at a lower figure for not only the true value of property but for the railroad value, using the multiples, because in those assessment districts where the railway companies owned the most valuable property, the ratio of assessed value to true value was higher than the figure that we have used. For example, all of the terminal property shown on this map 1 is in the fifth assessment district of the city of St. Paul, in which the ratio between the assessed value and sale-price of property is 63.54 per cent. We have used there 60 per cent, as we have in other parts of the city. I wish to say this: that there is one exception to the use of 60 per cent, and that was in connection with arriving at the value of the property owned by the Minnesota Transfer. Now, there had been quite an activity in real estate transactions in the vicinity of the Minnesota Transfer, particularly on the west side, and in order to get at what we believed to be fair we took the exact ratio that was found for that assessment district.

Mr. BUTLER: What was it?

WITNESS: I think that was 53.50 per cent.

Mr. DURMENT: As I understand you, when you yourself were arriving in your own mind at the proper ratio between assessed value and true value, in your own computations, which resulted in your taking 60 per cent—the assessed value would be 60 per cent of the true value—you took your cases upon which you arrive at that figure from the tracts which were adjacent to or in the vicinity of the railroad lines, and

not those far removed?

A. I took the figures which were prepared by the tax commission and by the special council committee and applied them to property that had been transferred within districts in which the Northern Pacific owned property, for the purpose of verifying and bringing out the truth of the proposition; and, as I have previously exhibited here, for all of the railroads in the city of St.. Paul, I took the assessed value and sale-price of all property that I could find within the various districts.

The MASTER: Assessment districts of the city?

WITNESS: No, the special sections that we had made on the maps.

The MASTER: That is what I wanted. We have had some talk about assessment districts, etc.; I wanted to know whether this 60 per cent was limited to the sections which you mentioned in the early part of your testimony along the lines of the railroad that you laid out; that is, did you arrive at that 60 per cent by taking the sales within those sections?

WITNESS: No; that was for the assessment districts of the city.

The MASTER: That is what I wanted to know.

WITNESS: Yes, for the assessment districts of the city.

Mr. BUTLER: And in getting at your valuation of 60 per cent, your assessment included property, at least this council commission did, remote from any railroad, like property up in Anna E. Ramsey's addition, up where you and I live?

WITNESS: Yes, all over the city. That was the work of the special council committee, and also of the tax commission. But in order to verify that and satisfy myself that it was a correct basis to use for the sections which I had divided, I went through all of the maps that I had prepared and took all of the sales of property that had taken place that reflected normal transactions, and applied the average ratio that had

been established by the state tax commission and by this special council committee, and I found that in the various sections in all parts of the city of St. Paul where the railway companies owned property I considered $1,344,752 of actual sales; I took the actual assessment on the same property and produced the true value on the basis of the relation between assessed value and sale-price, and from that I arrived at $1,359,959, or more than the property actually sold for.

Mr. DURMENT: Yes, but those examples that you considered were properties in the same districts as the railroad properties?

WITNESS: Yes.

Mr. DURMENT: And near the railroad properties, and reflected the values of the railroad properties?

WITNESS: Yes.

Mr. BUTLER: But the spread of the relation of the assessment value to the true value was from a very small per cent, perhaps as low as 25 or 30 to 130 or 140 per cent, wasn't it, in the city generally?

WITNESS: That might be so, on individual pieces.

By Mr. O'BRIEN:

Q. Mr. Morgan, I understand that a special committee of the common council of the city of St Paul made an investigation as to the relation which the assessed value of property in the city of St. Paul bore to the true value; is that true?

A. Yes.

Q. That investigation extended over the entire city of St. Paul?

A. Yes.

Q. And they found that, upon an average, the assessed value was what proportion of the true value?

A. 60.2 per cent.

Q. The tax commission of the state of Minnesota, with your assistants, made an independent investigation upon the

same subject, which I presume also extended over the entire city of St. Paul?

A. It did.

Q. And the conclusion of that commission was what?

A. 57½ per cent.

Q. You conducted an investigation upon this subject for yourself, I understand?

A. I did.

Q. Your investigation was limited to property immediately contiguous to the railroad property which you were about to value?

A. It was.

Q. And you examined the assessments placed upon the contiguous property and the prices at which that contiguous property had sold, from time to time?

A. I did.

Q. And in your own personal investigation you examined tracts of land in the city of St. Paul situated contiguous to the railroad property which had been sold for a price aggregating $1,344,752?

A. I did.

Q. Can you tell us how many tracts were comprised within that aggregate selling price?

A. I cannot now; I can work it out or have it worked out.

Q. Was it a large number of tracts?

A. Yes, it was quite a number of tracts.

Q. And your independent conclusion upon the ratio between the assessed value and the true value of that property was what?

A. That 60 per cent is a fair ratio to apply.

Q. And I understand, further, that in any district where you found that, because of peculiar circumstances, that ratio was not perfect, you adopted one which was liberal to the

Railroad Company?

A. Yes, I tried to be governed by reason in the matter as far as it was possible to do so. I didn't attempt to follow this out as an abstract proposition without using any judgment connected with it at all.

The MASTER: You based it on 60 per cent, though?

WITNESS: Yes.

The MASTER: Of the valuation as you found it—

WITNESS: Yes.

The MASTER: —in the sections along the line of the railroad?

WITNESS: Yes.

The MASTER: And then raised or lowered it, according to circumstances, upon inspection of the various tracts, or the conditions surrounding it?

WITNESS: In a way, yes.

Q. For instance, in assessment district No. 1 (I am now referring to the assessment district as established by the public authorities of the city) in assessment district No. 1 you found that the assessed value was what proportion of the true value?

A. I didn't establish that.

Q. Well, then, in the Midway district?

A. That was taken from the report of the special tax commission in which it showed that in the Midway district property was assessed at about 53½ per cent of the selling price.

Q. And there you used those ratios; you considered the assessed value only 53 per cent of the true value?

A. Yes, I did, in respect to the Minnesota Transfer, which was the only property which would be particularly interested in that, because the increase in values was immediately adjacent to the property owned by the Minnesota Transfer Company.

Q. The result was that the valuation placed by you upon the Transfer property, owned by the Minnesota Transfer, was higher than if you had considered the assessed value at 60 per cent of the true value?

A. Yes.

Adjourned until Monday morning, December 28th.

CAPITOL BUILDING, St. Paul, Minn., Monday, December 28, 1908. Hearing resumed at 10 A. M.

DWIGHT C. MORGAN,
recalled on behalf of Defendants, testified:

By Mr. O'BRIEN:

Q. When we adjourned Saturday, Mr. Morgan, you were giving certain examples for the purpose of illustrating the correctness of the sales-method. Have you any other examples, to which you can now refer, with reference to the situation in St. Paul, Minneapolis or Duluth?

A. I should like to call the Court's attention to one other example in the city of St. Paul. The Soo line, in purchasing its entrance into the city of St. Paul, purchased, originally, this property shown on map No. 1, for $22,525.

Q. Mr. Morgan, on Saturday you spoke about the Soo property, consisting of the property marked red on map No. 1, if I remember right.

A. Yes.

Q. You are now referring to an irregular-shaped piece below the part marked red, as I understand it?

A. Yes.

Q. Well, won't you please describe that a little more definitely, so it will appear on the record?

A. It lies between Lafayette avenue and Grove street produced, next to the right-of-way of the Northern Pacific.

Q. And a part of the Soo property that you described last

Saturday lies immediately north of this property which you are now describing?

A. It does.

Q. Now, go on.

A. This property was purchased for $22,525; it consists of 2.37 acres, or the cost per acre was about $11,000. In arriving at the value of the Northern Pacific property, as well as the Great Northern property, (which is parallel to the Northern Pacific property) we took into account all property colored in blue, designated as Section No. 4.

Mr. BUTLER: You mean bounded by the blue lines?

WITNESS: Yes; bounded by the blue line. And, as a basis of reproduction cost, we arrived at $40,353.35 for the Northern Pacific property, extending between Sixth street and Lafayette avenue. The Northern Pacific Company returned $39,639.60. I make that illustration to show that, irrespective of what the returns were in the reports of the railway companies, we have pursued our own investigations and increased the values put in by the railway companies where it was found that our method of procedure justified it.

Q. Well, what was the acreage of that property of the Northern Pacific valued at that amount?

A. 11.64 acres. I should like to correct that statement a little bit. That property that I have been describing was purchased by the Northern Pacific from the Soo line in a trade in which the Soo was seeking an entrance, and that $22,525 is what the records show the Northern Pacific paid the Soo line for that property.

Mr. BUTLER: The Soo line sold to the Northern Pacific, instead of purchasing, is the way you want that?

WITNESS: My recollection is that the Soo line purchased that property, in the first place, but eventually sold it to the Northern Pacific.

Q. Now, the price at which the Soo line sold it to the

Northern Pacific was largely in excess of the price or value fixed by you upon the Northern Pacific property immediately south of it?

A. No.

Q. From the figures you have given, that is the case, Mr. Morgan, and I wish you would explain that a little more fully. The Soo property consisted of how many acres?

A. That particular piece that the Soo bought originally consisted of 2.37 acres.

Q. And the purchase price was how much?

A. I haven't the purchase price on that; it was transferred from the Soo line to the Northern Pacific for $22,525.

Q. That would be about $11,000 per acre?

A. Yes.

Q. Now, the value which you placed upon the Northern Pacific property immediately to the northeast of the Soo property, was placed by you at about $4,000?

A. $40,000.

Q. That was the eleven acres?

A. $40,000 per acre.

Q. Oh, then you didn't give the total value of that tract; you were giving its value per acre—

A. Value per acre.

Q. —when you said $40,000?

A. Value per acre.

Mr. BUTLER: You arrived at $40,353.35 per acre, and the Northern Pacific's return was $39,639.60 per acre?

WITNESS: Correct.

Q. Is there any other example in the city of St. Paul that you desire to give?

A. Well, I should like to give a comparison of the cost of reproducing the terminal property of the St. Paul Union Depot Company, with the cost of acquiring the property necessary for the St. Louis terminal station.

Q. Well, I asked you if there was any other example of local comparisons of property in this city with property in the city.

A. I recall none at the present time.

Q. You did, however, extend your inquiries beyond the state of Minnesota, did you?

A. I did.

Q. Now, will you give that St. Louis example, in your own way.

A. The report returned by the St. Paul Union Depot Company showed that they owned 731,372 square feet of property, as colored in yellow, on map No. 1, lying between Sibley street and Brook street.

Q. You mean as enclosed within the lines colored yellow?

A. Within the line colored yellow. They placed a reproduction cost on this property of $4,287,302.66, which is at the rate of $5.86 plus, per square foot. In arriving at my own figures as to the cost of reproducing this property, I had established a basis from the value of property beginning at Sixth street; I then took all of the values that had been turned in to me by the different railway companies owning property through this territory from Sixth street to the river, between Broadway and Brook street. I found a gradual increase in values as we approached the river, and using those figures turned in by the railway company as a basis showing the percentages of increase of value, I interpolated from them, and in that way, using my own figures as a basis, I also arrived at a gradual increase of property in this direction, and in reaching the union depot property I found a value of $3,069,563.95.

Mr. BUTLER: That is $4.195 per square foot?

WITNESS: $4.195 per square foot.

Mr. BUTLER: As against the Company's $5.86?

WITNESS: $5.86. In 1895, the Terminal Railroad Association, of the city of St. Louis, purchased property for a new

terminal passenger station.

Mr. HOW: Where,—in St. Louis?

WITNESS: Yes. I have here a monograph, giving the history of this St. Louis union station, which is signed by Mr. William Taussig, president. On page 10 of this report, Mr. Taussig describes the property purchased. Quoting from his statement, he states: "On the site selected there were many large industrial establishments and over one hundred houses, many of them four-story, substantial brick buildings; among the former there was one of the largest breweries in the city, occupying with its imposing buildings, almost a square of ground; a large flour-mill, a complete plant with gasometer of one of the gas companies; one of the largest soap-and-candle factories, a wagon factory, stores, warehouses and the car-stables and sheds of an extensive city car-line." They purchased for this terminal a total of 1,830,160 square feet, at a total cost, including all of the buildings and improvements to which Mr. Taussig has made reference, of $4,500,000, or at a cost of $2.47 a square foot.

Q. Do you know about what the population of St. Louis was in 1895?

A. I think St. Louis had a population of about between six and seven hundred thousand people, probably three times as large as the city of St. Paul. And the location of this new terminal station is in the heart of the city. I lived in St. Louis, I am reasonably familiar with the city, and the location of this property is very close to Olive street, which is one of the principal streets of the city.

The MASTER: You say this was in 1895?

WITNESS: In 1895.

Mr. BUTLER: Was $4.19 the market value that you put on the St. Paul union depot property, or was it the market value increased by your multiple?

WITNESS: It was the market value increased by my multi-

ple. I make this illustration to endeavor to show that when I arrived at a value for the Union Depot property in St. Paul the figure is a fair one.

Q. In valuing the terminals of the railroads and of the Northern Pacific Railway Company in the three large cities of the state, have you had occasion to value the property included within street lines in any cases?

A. Yes; where those streets have been vacated, but on the Northern Pacific property in St. Paul I believe there was no property returned by them in which they made claim to the streets. In Minneapolis there was some property which was occupied under ordinances and easements, and in making up my estimate on the cost of reproduction I assumed that it would be proper to proceed upon the theory that those privileges would be granted again. The ordinances specify certain things, and as long as the railway company abides by those restrictions, the easements are perpetual. Now, I do not wish to be understood that no value attaches to these particular easements; they are valuable, very valuable, but they are outside, I believe, of the cost of reproduction upon the theory on which I have proceeded, that we would have a right to assume that the same privileges which were in existence would be granted again.

Q. So that where the streets have not been vacated, no addition was made to the values as found by you because of the easement in the street?

A. No.

MR. BUTLER: Nothing added at all?

WITNESS: Nothing added at all.

Q. Where the street was vacated, what was your—

A. Property was included as belonging to the railway company.

Q. And valued—

A. And valued the same as—

Q. —as the other property?

A. —as the property within the block lines, yes, owned by them.

Q. For instance, within the four blocks in Kittson's addition, that you called attention to last Saturday, is that the case there?

A. Yes; those streets have been vacated, and we included them.

Q. And in arriving at your value you took the entire area, including the streets, which had been vacated?

A. I did.

Q. Now, Mr. Morgan, is there any other circumstance connected with the valuation of any of the large terminals (that is, the terminals in St. Paul, Minneapolis and Duluth) to which you desire to call attention and which you have not already been asked about?

A. There are, of course, a good many individual examples, but I don't recall any at the present time to refer to. I have been referring to these mainly as a justification for the basis upon which we have proceeded. Of course, they are extreme examples of differences which I found and which I took as a justification for getting away from the opinion-plan of valuing property. The differences are not so great in respect to other instances, and in some cases we raised the value of property turned in by the Northern Pacific Company.

Q. State whether or not there is anything peculiar in the situation at Duluth, which you desire to explain, showing any difference there from the terminals at St. Paul and Minneapolis.

A. Duluth was a very difficult city to get an intelligent estimate of value in. The particular location of the railroad property with respect to the topographical environments of the city was such that, to a considerable extent, we accepted the figures turned in by the railway companies as being sus-

tained by such investigations as we could make along comparative lines.

Q. Then do I understand that, in your total value with reference to the Duluth terminals, there is a substantial agreement between yourself and Mr. Cooper?

A. I think there is not a great deal of difference in the city of Duluth between us; four or five per cent, such a matter.

Q. The main difference, then, is in the terminals at St. Paul and Minneapolis?

A. Yes.

Q. You said, Saturday, that in valuing this property you valued it as land, without regard to the use to which it was put, as I remember it?

A. Yes; in considering the cost of reproduction, that was the basis upon which I had to consider it.

Q. That is, you did not value the land as an operating tool?

A. Not on the cost of reproduction, no.

Q. You know, Mr. Morgan, that real property is entitled to be taken at its value for the use to which it is best adapted, do you not?

A. I do.

Q. Now, I wish you would explain, in detail, what you mean by saying, if that is the fact, that you valued this as land, considering its value for the purpose for which it was best adapted and at the same time did not consider its value to a railroad company as an operating tool.

A. I have been proceeding upon the theory of reproducing the railroads of the state of Minnesota, and upon that theory it was necessary to presuppose that the lands now occupied by the railway companies would be unoccupied for that purpose, and it was therefore impossible to take into account, in connection with the question of reproduction cost, what these lands might be considered worth because at the present time they are utilized for railway purposes. I think I explained in

my testimony, Saturday, that if we pass upon these lands because they are used for railway purposes, it is very difficult to differentiate between its value as land and its value because it is utilized for railway purposes. I think I stated, further, that if the item of utility is to be considered—and I believe that it is in some respects—yet it cannot be made the basis for reproduction cost; and, as I stated in my testimony Saturday, if utility is to be considered, I would probably not be in a position to criticise the values that have been turned in by the railway companies; but on the basis of reproduction cost, where these lands must be considered as lands, I could not take into account the question of utility.

Q. It is true, is it not, that lands covered with water, or low, marshy, swampy lands, are often entirely available for railroad purposes?

A. Yes.

Q. Much of the lands upon which the terminals of the railroads in St. Paul are situated were lands of that character, originally.

A. Some of them were, yes.

Q. The union depot lands that you have been describing?

A. Yes; part of the union depot property was originally a swamp.

Q. So that the fact that lands of that sort are available for railroad purposes gives such land a value entirely irrespective of the fact that it is marshy and low or wet or covered with water?

A. Yes, it does.

Q. Now, I understand that, in valuing these lands, you took that fact into consideration; you didn't consider the lands from the standpoint of residence property or for agricultural purposes, but considered that the highest value of these lands was for railroad purposes?

A. I considered the value of the lands occupied by the rail-

way companies from contiguous property, as I have already explained; and the value of that contiguous property was made the basis for determining the value of the lands occupied by the railway companies, irrespective of whether that land was originally in the water or not; it may subsequently have been built up, as has been the union depot property, but that is a part of the cost of constructing the line, the filling in; so that the properties occupied by the railway companies have been considered from contiguous land.

Q. But, as you say, you of necessity proceeded upon the assumption that the lands were available—the amounts of lands were available—and could be purchased at the prices fixed by you with the multiple added?

A. Yes.

Q. And having ascertained that fact and come to that conclusion, you added nothing for what you have termed utility?

A. I have not.

Q. And when you speak of the presumption upon your part that the lands were available and could be purchased, you mean at this time?

A. At the present time.

Q. In no case, except as to quite recent purchases, did you attempt to arrive at the original cost of the lands?

A. No; not back of five years, the plan of this work being to ascertain the cost of reproduction presently, and therefore the original cost was not taken into account back of such examples as we could find within the past five years.

Q. And those were used by you for the purpose of verifying your conclusions?

A. They were.

Q. Mr. Morgan, should all the balance of the real estate of the Northern Pacific Railway Company in Minnesota be considered upon the same basis, or is there a class of property within certain towns or villages which should be considered

by itself?

A. I don't know as I understand exactly.

Q. What I mean by that is this: We have now, with some care, explained how you arrived at the values of the terminal properties. Now, we are out beyond the terminals; there is considerable property located in villages and in smaller cities. I want you to state whether or not we ought to consider that now, separately, in going through this work that you have done, step by step, or whether we can take all of the balance of the real estate?

A. The property of the Northern Pacific Company considered outside of the terminals of St. Paul, Minneapolis and Duluth, has been arrived at upon a different basis. It is fairly uniform, and that basis would probably describe in general the balance of the property owned by the Northern Pacific.

Q. State whether or not you have platted the entire right-of-way.

A. We have maps and plats of the right-of-way of the Northern Pacific.

The MASTER: For the whole state?

WITNESS: Yes.

Q. What is the first county, after you leave Minneapolis and Hennepin county, that is reached?

A. Anoka county.

Q. Have you a map of Anoka county?

A. I have; it is down stairs.

Q. I call your attention to the map of Wadena county. Where is Wadena county situated?

A. Wadena county is situated in the central part of the state; Wadena is the county seat.

Q. Is that the first county reached after leaving Minneapolis, of which you have a map in this room?

A. It is.

Q. Now, explain this map of Wadena county.

A. The map of Wadena county is prepared showing the location of the transfers of property which have taken place within the past five years adjacent to the line of the Northern Pacific railroad and adjacent to the line of the Great Northern Railway Company.

Q. What distance in Wadena county does the right-of-way of the Northern Pacific Railway Company extend?

A. About thirteen or fourteen miles.

Q. How many transfers adjacent to that right-of-way were examined?

A. Forty-six transfers.

Q. Did those transfers include property immediately adjacent to the right-of-way, on one side or the other of the right-of-way, for the entire distance of the road in Wadena county?

A. It did, so far as the transfers of property had been made.

Q. Well, please look at the map and ascertain if there is a single section in Wadena county touched by the Northern Pacific right-of-way in which a transfer was not examined by you in the course of this work.

A. Section 8 in Wadena township is the only one.

Q. And in most cases transfers were examined of subdivisions of sections immediately adjacent to the right-of-way?

A. Yes, sir.

Q. That is, subdivisions immediately adjacent to the right-of-way.

A. Yes.

Q. But with the exception of one section, transfers in every section touched by the right-of-way were examined?

A. That is correct, as to Wadena county. The extent to which it is possible to show these transfers was dependent upon the activity in real estate transactions, and in some cases we were able to show it much more complete than in other cases.

Q. Within what period were those transfers made?

A. 1900 to 1906.

Q. In any of this work were transfers examined which occurred prior to 1900?

A. No.

Q. In addition to those examinations, what data did you accumulate with reference to Wadena county?

A. I found from the transfers of property adjacent to the line of the Northern Pacific that the average true value per acre was $16; in addition to that, I obtained the opinion of Mr. J. W. Aldrich, county treasurer, in which he stated that lands along the Northern Pacific, unimproved, averaged $20 per acre; and Mr. E. Boss, county auditor, stated lands along the Northern Pacific averaged $15 per acre. The state tax commission, in making investigations in that county, found that the average true value of the lands was $13.30 per acre.

Mr. BUTLER: For the whole county?

WITNESS: In the whole county.

Q. And you appraised those lands for the true value at $16 per acre?

A. At $16 per acre.

Q. Now, what is the character of those lands?

A. The lands in Wadena county are farming lands, with some timber along the line of the Northern Pacific; the lands are rolling, gently; some of it is quite level.

Q. Is the country in that county thickly settled?

A. I have made no investigations into the population of the county; I should say that, along the line of the Northern Pacific, it is fairly well settled.

Q. In Ex. OO those lands are carried under your valuation at $16 per acre?

A. Yes.

Q. In Ex. QQ, where you have used the multiple adopted for agricultural lands, they are carried at $48 per acre?

A. As railroad reproduction cost, yes.

Q. And in the report of the Railway Company they are carried at what price per acre?

A. $105 per acre by the Railway Company. Of course my average here is outside of the towns; it does not include the towns. This is distinctively farming property or country property.

Q. Yes, I am going to get to that. Now, within this county, there is situated the town of Wadena?

A. Yes.

Q. Through which the Northern Pacific railway passes?

A. Yes.

Q. Was that appraised separately by you?

A. Yes.

Q. Now, describe that appraisement.

A. I considered that the value turned in by the Northern Pacific Company at that point was reasonable; that for the acreage owned in the city of Wadena, $300 per acre for the market value and $900 for the railroad value, was fair, considering the size of the town and the data that we had acquired from other sources which enabled me to form an opinion in respect to it. I might illustrate, right at this point, again, one of the incidents of opinion: The Northern Pacific road comes right through the heart of Wadena; it is located very close to the center of the town; in fact, the town has been built up around the Northern Pacific railroad. Subsequently, the Great Northern Company built a line of road through the city of Wadena, but they were far to the east of the town, where there were comparatively no improvements, and the value of land would not be any higher, at least, than that turned in by the Northern Pacific Company, and yet the Great Northern Company, in its appraisal, turned in $2,000 per acre as a market value and $3,000 per acre for a railroad value.

Q. I now call your attention to Polk county, and you produce here a map of that county prepared by you?

A. Yes.

Q. Will you indicate the location of the right-of-way of the Northern Pacific Railway upon that, in that county?

A. Extending through from the south line of Polk county, in Garfield township, northerly to the northern line of the county, in Tilden township, branching in Garfield township and extending northwesterly to Crookston and to East Grand Forks, in the westerly boundary of the county.

Q. And at that point leaving the state of Minnesota?

A. At that point leaving the state of Minnesota.

Q. Have you the number of transfers examined by you in Polk county?

A. I have. The map of Polk county covers parts of three sections or three of the subdivisions into which the Northern Pacific line was divided. Section 19 extends from the south line of the county, in Garfield township, to East Grand Forks, the westerly boundary of the county and the state line. Section 20 extends from Fertile, in Garfield township, northerly to the northern line of Tilden township, and again from the easterly line of Belgium township to Carthage Junction. Section 21 extends from Key West to Sherack, in Keystone township.

Q. There is no break in the road between Tilden township in Polk county and Belgium township, is there?

A. None, other than the fact that the line runs out of Polk county and extends around in this way.

Q. And that is through Red Lake county?

A. Through Red Lake county.

Q. And this section that you speak of, section 19, comprises that portion of the road in Red Lake county, also, I presume?

A. Yes.

Q. How many transfers were examined in Polk county?

A. We considered 190 transfers of property.

Q. That included property contiguous to the right-of-way

of other railroads, I presume, than the Northen Pacific Railway Company?

A. That was exclusively along the Northern Pacific railway.

Q. What is the mileage of the Northern Pacific railway in Polk county?

A. Roughly, I should say between seventy and eighty miles of line.

Q. What other means did you adopt to satisfy yourself as to the value of the lands?

A. We obtained the opinion of real estate men in respect to lands in Polk county.

Q. Whose opinions—how many?

A. We obtained the opinion of Christianson & Strander, abstracts and real estate, at Crookston, Minnesota. From the transfers of property and according to our own investigations on section 19, which extends from Fertile to Carthage Junction, we found an average of $30 per acre; on the line from Fertile north through Tilden township, and from Belgium township west to Carthage Junction, we found an average from $25 to $35 per acre; and on section 21 from Key West to Sherack, in Keystone township, we found an average of $35 per acre. The real estate men to whom I have referred as having been consulted, state that, from Crookston to East Grand Forks, along the Great Northern and Northern Pacific railways, lands are worth from $25 to $30 per acre.

Q. You are now reading from the report of the real estate men?

A. Yes, from their statements. From Crookston to Fertile, $15 to $20 per acre. Those are all of the lands covered by these real estate men pertaining to the Northern Pacific in Polk county. We have statements here in respect to other counties.

Q. Did the tax commission find a value in that county?

A. They did; an average of $23.54 per acre.

Mr. BUTLER: For the whole county?

WITNESS: Yes.

Q. In Ex. OO, the right-of-way through the farm lands in Polk county are carried at the prices which you have given as the values placed upon them by you?

A. Omitting the multiples, that represents what these lands are valued at in Ex. OO.

Q. Well, there is no multiple in Ex. OO?

A. No.

Q. Ex. OO deals with what you have described as the true market value?

A. It does.

Q. And they are carried in that total at this figure which you found as the true or market value?

A. Yes.

Q. Now, in Ex. QQ those lands are carried at three times that amount?

A. Yes; $75, $90 and $105.

Q. Will you please let us know at what they are appraised by the Company?

A. In section 19, in the Northern Pacific report, they are carried at $30 and $90.

Q. Do you mean $30 as market value and $90 as right-of-way value?

A. Yes. In section 20 they are carried at $30 and $90; in section 21 they are carried at $40 and $120.

Q. Crookston is quite a large town, is it not?

A. It is.

Q. Will you please describe your method in regard to the right-of-way and depot grounds in the city of Crookston which is included in Polk county?

A. The Northern Pacific returned 37.80 acres in Crookston at a market value of $785 per acre, and a right-of-way value at $2,355 per acre. The location of the Northern Pacific

through Crookston is much to the east of the town, and from our investigations as to values in other cities it was my opinion that they had placed much too high a value on their property, when considered as a whole. There is, undoubtedly, perhaps, some part of the property that would be valued as high as the figures they have represented, but, considering it as a whole, for the 37.80 acres, I placed a value of $300 per acre as the market value and $900 per acre as the right-of-way value.

Q. How does that value, so placed by you, compare with the actual cost to the companies of acquiring property in Rochester and Winona?

A. It is not so expensive property as would be encountered in Winona or in Rochester—not nearly so.

Q. And did you take into consideration the prices paid in those places in considering this?

A. Only in a general way.

Q. Well, you state that you did take into consideration the prices paid at other places?

A. In a general way.

Q. Can you tell what other places you considered?

A. Well, as I stated previously, we had considered a great many towns in the state and arrived at an opinion, in a deductive way, and in passing over the line and spending some time in going over the property in Crookston, that was my judgment. Now, it would be impossible to take any individual case, but, in considering a matter and studying it assiduously for several years, a man ought to perfect his judgment to a certain extent, and that is the way that a good many of these values have been arrived at.

Q. Do you know the value of lands immediately outside the corporate limits of Crookston?

A. Here is eighty acres of land that sold for $5,385, lying against the easterly corporation line of Crookston.

Q. That is how much per acre?

A. About $67 an acre.

Q. And that was sold when?

A. Within the past five years, six years.

Q. You say the land of the Northern Pacific is not in the built-up portion of the city of Crookston?

A. No; particularly on the east, there is no development on the east. What development there is, is on the west, and it lies some distance from the centre of the town.

Q. And the land upon each side of the railroad property is not improved, or is it used for any purpose?

A. On the west, of course, there are some dwellings; along the east, I should say that a good deal of it is used for pasturage.

Q. In Polk county there is also the city of East Grand Forks?

A. Yes.

Q. Will you explain what was done there?

A. In the city of East Grand Forks the Northern Pacific owns 41.69 acres, which they turned in at a market value of $1,500 per acre and a railroad value of $4,500 per acre. The value I placed on this property is $600 per acre for market value and $1,800 per acre for railroad value.

Mr. BUTLER: Same acreage?

WITNESS: Same acreage.

Q. Now, will you explain the method by which you arrived at the value fixed by you?

A. The location of the Northern Pacific at East Grand Forks is such that it runs directly into the city from the east. A very considerable part of the property owned by the Northern Pacific lies easterly from the main part of the town, and while there may be individual cases where the property would be as valuable as that indicated by the Northern Pacific, perhaps more so, yet, considered as a whole, for the forty-one

acres, my judgment was that $600 and $1,800 would be a fair estimate of the cost of reproducing it. That would be about $72,000 or $73,000 to gain an entrance into East Grand Forks.

Q. And those amounts are included in Exs. OO and QQ, in the same way as you have already described as to the other lands?

A. They are.

Q. Now, Mr. Morgan, were similar maps prepared for each county to those which you have already exhibited for Polk county, Wadena county and the county that we spoke of last week—Clay county?

A. They were.

Q. And similar tests applied to the question of values?

A. They were.

Q. And was each station, village and city, located upon any of the lines of the Northern Pacific Railway Company in the state, examined in the same manner as you have described you examined the cities of Crookston and East Grand Forks?

A. Yes.

Q. So that in every case you have made an independent and separate appraisement of the properties?

A. I have.

Q. And have personally inspected the property?

A. I have.

Q. And have in every case checked your valuation by examining transfers, ascertaining the opinion of real estate experts, and ascertaining the conclusions reached by the state tax commission?

A. Yes.

Q. And that is true as to each acre of property owned by the Northern Pacific in the state of Minnesota?

A. It is.

Q. And you have the maps and references, as well as the various items of information received by you from those of

whom you made inquiry, in your possession in this office?

A. I have.

Q. Which are open to the inspection of the Master or the Complainant in this case?

A. They are.

Q. Now, have you tabulated this data?

A. I have.

Q. So that you can furnish the result of that tabulation to the Master?

A. I have.

Q. You have not totaled this data to which I have referred, have you?

A. I have not summarized or totaled it, no. I have it individually for each county.

Q. Well, I think that you had better just give in each county, the number of transfers examined, the number of reports received from real estate men, and the value placed by you upon the agricultural lands and the value placed by the tax commission upon the agricultural lands.

A. Perhaps it would be well to consider these counties alphabetically. Aitkin county: We considered fifty-six transfers in Aitkin county, produced an average of $10 per acre. Mr. Lewis Hallam, an attorney-at-law, states lands surrounding Aitkin are worth about $25 per acre, and in rest of the county along the Northern Pacific railway line is worth from five to ten dollars per acre. The state tax commission returned a true value of $9.80 per acre.

Q. What are those lands carried at in Ex. OO?

A. In Ex. OO they are carried at $10.

Q. Then in each instance you have taken as the true or market value of the land the result arrived at from the transfers?

A. I have.

Q. And the opinion of the expert and the conclusions of the

tax commission are simply given in support of your conclusion from the transfers?

A. That is all.

Q. Now, go on, so we will understand that in each case.

A. Anoka county, true value from the transfers $50 per acre; opinion of A. A. Caswell, county auditor, township value of lands along the Northern Pacific and Great Northern railways, Fridley township, $50; Anoka township, $30, Ramsey township, $30; lands along railroad in the city of Anoka average in price about $300 per acre. The state tax commission gave a true value for the county of $16.64 per acre.

Mr. BUTLER: What was your value on Ex. OO?

WITNESS: My values are always those—

Mr. BUTLER: $50?

WITNESS: Yes.

Mr. O'BRIEN: Always those he gives first, Mr. Butler.

WITNESS: Always those I give first. In Becker county, true value from the transfers, $18 per acre. Opinion of Mr. C. C. Sturtevant, real estate agent, value of lands per acre in Becker county, Lakeview township, $20; Detroit, $35; Richmond, $35; Cuba, $35; Lake Park, $35; Audubon, $30; Burlington, $15. He states Soo line right-of-way through city of Detroit cost $17,000; Railway Company paid about two and one-half times the commercial value of land. Mr. C. C. Sturtevant, who gives this statement, bought the right-of-way for the Soo line through Becker county. The opinion of D. M. Johnson, an attorney: Land along the Soo line worth $20 to $30 per acre; land along the Northern Pacific, west of Detroit, worth $20 to $30 per acre; land along the Northern Pacific, east of Detroit, worth from $15 to $20 an acre. The tax commission finds a true value of $15.54. Benton county, true value from the transfers, thirty-two transfers considered, $16 per acre. Mr. O'Donnell of Klein & O'Donnell, hardware merchants; "lands unimproved along the Northern Pacific, worth

about $10 per acre. This land is sandy. Lands unimproved, along the Great Northern, worth about $15 per acre. Opinion of Mr. M. J. Dickson, banker, State Bank of Foley: "Land unimproved, in Benton county, worth on an average of from eight to ten dollars per acre." The true value of lands in Benton county as established by the tax commission is $20. Cass county: True value of lands from 22 transfers along the Northern Pacific, and 65 transfers along the Minnesota & International, $8 per acre. Mr. M. J. Quam, register of deeds, office, Walker, Minnesota: "Land in this county varies a great deal in price; some pieces are practically worthless, while other pieces sell for twelve to twenty dollars per acre. Lands along the railroad in Cass county average in price about $8 per acre. Land along railway in reservation is very good in portions, and while transfers there are very few, the value is about the same as in sections where transfers are numerous." Clay county: True value, from transfers along the Northern Pacific, 72 transfers considered, is $24 per acre. The opinion of George E. Perley, attorney and real estate agent, "Land in Clay county worth an average of $25 per acre, covering the whole county." There is a note here, that was placed by my special agent, which states that the Northern Pacific is changing its line through Riverton, Hawley and Highland Grove townships, and is paying from $50 to $100 per acre for right-of-way, and their deeds are not yet recorded. The tax commission returned a true value of $27.26.

Recess until 2 P. M.

AFTERNOON SESSION.

Q. If you will go on with the matter that we were on at the time we took a recess.

A. I should like to skip Chisago county for the present until I get the county map. Carlton county: The true value of lands from transfers on Northern Pacific, Section 2, $10 per acre; Section 5, $14 per acre; Section 10, $10 per acre;

Section 5, $14 per acre. In all, we considered 86 transfers of property. Mr. Charles Stahlberg, register of deeds' office, states that wild lands in Carlton county are worth from six to ten dollars per acre; lands along the river, near Cloquet, worth $10 per acre. Mr. Quinn, editor of the Cloquet Independent, states wild lands are worth about $10 per acre; lands along the river, near Cloquet, especially along Duluth & Northeastern railway, very hard to estimate; land itself is not worth more than $10 per acre, but the Knife River Falls Boom Company, which have control of the same people, and control the Duluth & Northeastern, have bought the right of boomage on all logs passing along the river (this company practically controls the whole river), the state tax commission returns a true value of $11.31 per acre. Morrison county: From the transfers of 119 pieces of property, we find on Section 14, from Little Falls south, $16 per acre; from Little Falls north, $16 per acre; from Little Falls west, $18 per acre; from Little Falls northwest, $13 per acre. Mr. John Wetzel, cashier of the National German American bank at Little Falls, states, "The land along the branch from Little Falls to Staples is worth, on an average, about $15 per acre; land along other branches is worth about $20 per acre." Mr. Wetzel was a commissioner in condemnation proceedings when the Staples branch was built. The state tax commission finds a true value of $14.06 per acre in Morrison county. Norman county: We find the true value of lands, from forty-nine transfers, to be $20 per acre. Information received from the register of deeds' office at Ada, Minnesota, verified by Mr. Moln, county auditor, states, "Land through which the railroad runs near Ada, worth on an average of $30 to $35 per acre; land along the Great Northern railway, running adjacent to the Red river of the North, worth on an average of $40 to $50 per acre. Three years ago this land could not be bought for less than $50 per acre. The most of it was held at a higher price, but in later

years wet weather has depreciated the value. Near Twin Valley, on the Northern Pacific, land is worth on an average of about $20 per acre; in the north part of the county, land is worth about $20 per acre." The state tax commission finds the true value of land $26.13. Otter Tail county: We find the true value of lands from 81 transfers on the Northern Pacific, Section 17, to be $21 per acre; Section 18, $29 per acre. Mr. A. G. Anderson, cashier of the Scandia Bank, states, "Land in this county varies in price more than in most any other county. A piece of land may be worth $30 to $35 per acre, the piece next to it is marshy and practically worthless. The western part is more valuable than the eastern part of the county. Land in the western part of the county is worth from $30 to $35 per acre, and in the eastern part land is worth about $20 per acre." Mr. Fred Hodgman, real estate agent, states, "Value of land in Otter Tail county averages about $30 per acre, covering the whole county." The state tax commission finds the true value of $19. In Pine county we find the true value of land, from 84 transfers adjacent to the Northern Pacific, on Section 2, $13 per acre; on Section 6, $13 per acre. Mr. D. Greeley, president Pine County State Bank and county auditor, states, "Land in the lower tier of townships is worth about $25 per acre. The most of this land is improved. Land in the next two tiers of townships is worth about $15 per acre, and from there on, land is worth about $10 per acre. Land along the Great Northern railway worth about $10 per acre. General average over the whole county, $15 to $20 per acre." Mr. F. A. Hodge, president First State Bank in Pine City, states: "Value of lands unimproved in Pine county, township 38, range 21, $15 per acre; township 39, range 21, $12.50 per acre; township 40, range 21, $10 per acre; township 41, range 21, $15 per acre; township 40, range 22, $10 per acre." The state tax commission finds the true value of $10.54. Pope county: We find the true value of lands from 43 transfers adjacent to

the Northern Pacific to be $29 per acre. Mr. N. J. Carson, real estate agent, Glenwood, Minnesota, states: "Land in Pope county will range in price from $25 to $51 per acre, average value $30 to $35 per acre. Land along the bluffs adjoining Glenwood is sandy and stony, but at a distance away from the bluffs land is good and up to the average. The improvements, of course, will greatly determine the value of lands." The state tax commission finds an average true value of $25.90. Polk county has already been covered. Red Lake county: We find the true value of lands, from twenty-two transfers, to be $21 per acre. Mr. Frank Jeffers, register of deeds' office, states: "Lands south of Red Lake Falls, as far as Perrault, along Northern Pacific railway, and north along the Great Northern, as far as St. Hillaire, worth on an average of about $25; land south of Perrault on the Northern Pacific railway is not so valuable, worth on an average of $15 to $20 an acre; land along near the line of the Soo worth on an average of $18 per acre; land in south half of Poplar river township averages about $15 per acre, and in the north half land is worth from $20 to $25 per acre. Land in Edwardsville and Wyandotte townships, worth an average of $20 per acre; land in River Falls and south part of Rocksbury township, worth an average of about $12 per acre. Land south of Thief River township, worth about $20 to $25 per acre; land in north township, worth $35 per acre." Mr. E. S. Healy, real estate and loans, states, "Land south of Thief River Falls, worth about $25 per acre." The state tax commission finds a true value of $18.37 for the county. In Stearns county: We find the true value of lands, from 26 transfers, to be $28 per acre. We obtained no special information from real estate agents at that county. The state tax commission obtains a true value of $25.65 per acre. Stevens county: We find true value from ten transfers, $36 per acre.

Mr. J. H. Devenney, real estate agent, Morris, Minnesota, states: "Land in this county is practically all improved, and

varies in price from $25 to $35 per acre, according to the distances from the towns." The state tax commission finds an average true value of lands in Stevens county of $31.75. Sherburne county: We find the true value of lands, from 50 transfers, to be $24 per acre. Mr. Charles Swanson, county auditor, states, "Lands along the Northern Pacific average in price about $20 per acre; lands along the Eastern Railway of Minnesota average about $10 per acre; lands in Elk River, along Northern Pacific Railway, average in price from $100 to possibly $200 per acre, for platted lands, sold in small tracts; for unplatted lands, sold in large tracts, worth about $50 per acre. Lands within the city limits of Becker, Clear Lake and Big Lake, average in price about $50 to $100 per acre." The state tax commission finds a true value for Sherburne county of $18.05 per acre. Todd county: We find the true value, from twenty-four transfers of property adjacent to the Northern Pacific, on Section 10, $12; on Section 14, $12 per acre; on Section 16, $16 per acre; on Section 17, $12 per acre. Mr. Frank B. Simmons, real estate agent, states, "Value of unimproved lands in the following townships: Villard township, $8 per acre; Staples township, $10 to $12 per acre; Fawn township, $4 per acre; Burnhamville township, $12 per acre; Gray Eagle township, $10 per acre; Birchdale township, $8 per acre; West Union township, $18 per acre; Kandota township, $10 per acre; Little Sauk township, $8 per acre; Long Prairie township, $12 per acre; Round Prairie, $10 per acre; Hartford township, $12 per acre; Eagle Valley township, $12 per acre; Wykeham township, $12 per acre; Bertha township, $10 per acre; Stowe Prairie, $8 per acre." Mr. W. E. Lee, cashier Long Prairie Bank, states: "Wild lands in Staples, Villard and Fawn Lake townships, worth from $8 to $10 per acre," average value of lands in rest of the county, $18 to $20 per acre." The state tax commission finds the true value of $18.77 per acre for lands in Todd county. Wadena: We find the true value of lands, from forty-

six transfers adjacent to the Northern Pacific, at $16 per acre. Mr. J. W. Aldrich, county treasurer, states: "Lands along Northern Pacific, unimproved, average $20 per acre; land along Great Northern railway, unimproved, worth $6 to $15 per acre; land along Great Northern is poorest in county." Mr. E. E. Boss, county auditor, states: "Land along the Northern Pacific averages $15 per acre; land along the Great Northern railway, $10 per acre." Mr. U. Boyer, register of deeds' office, "Land along the Northern Pacific railway, $15 per acre; land along the Great Northern railway, $6 to $15 per acre." The state tax commission finds the true value of $13.30 per acre for lands in Wadena county. Washington county: We find the true value, from fifty transfers of property adjacent to the Northern Pacific, $26 per acre. In the appraisal we allowed $36 per acre on Section 2; on Section 9, we find from the transfers, an average of $36 per acre, and we allowed $40 per acre. The following information was obtained from the register of deeds' office: "Land along the river is very poor, $5 per acre is considered a good price for it."

Mr. BUTLER: Does that mean the St. Croix, in Washington county?

WITNESS: Yes. "Land in Forest lake and Anoka townships is worth about $20 per acre; land in May, Grant and New Scandia townships, worth about $20 per acre; land in Cottage Grove township, away from the river, worth about $50 to $75 per acre; land in Oakdale and Bayton townships, worth $50 to $65; land in Stillwater township, worth about $90 per acre. The right-of-way of the railroads in the city of Stillwater is nearly all land which was made by the companies in filling up the river and is good only for railroads and perhaps factory purposes. Main street is a block from the railroads and the river, and property on this street is very valuable." The state tax commission finds the true value of lands in Washington county to average $39.02 per acre. Wilkin county: We find

the true value of lands, from twenty-one transfers, $31 per acre. Mr. W. B. Cole, register of deeds' office, and Mr. W. B. Plaisted, real estate agent, states: "Land unimproved in Champion, Campbell, Brandup, Sunnyside, Breckenridge, Connelly, Nordeck, Roberts and Wolverton townships, worth from $30 to $35 per acre; land unimproved in Foxholm and Andrea townships, worth $22 per acre; land unimproved in Prairie View and Taubrig townships, worth from $15 to $20 per acre." The state tax commission finds the true value of lands in Wilkin county to be $32 per acre. In Chisago county, we find the true value of lands adjacent to the Northern Pacific, from fifty-nine transfers, on Section No. 2, at $20 per acre; from six transfers on Section No. 7, $24 per acre; from twenty-seven transfers on Section No. 8, $25 per acre.

Q. When you are referring to sections, you are not referring to the governmental sections, you are referring to the sections as established by you for the purpose of this valuation?

A. Yes, the sections into which the Northern Pacific has been divided, the twenty-one different sections. It so happens that Chisago county is in three different subdivisions of the Northern Pacific line. Their Section 2 traverses the county from north to south and the other sections (7 and 8) are branch lines that extend out; but they have, in making up the appraisal, been considered separately by the Northern Pacific and by myself, so that it makes three separate sections in that county. Victor L. Johnson, cashier of the Chisago County Bank, states: "Value of lands in Chisago county as follows: Wyoming township, section No. 1, $40 per acre; No. 5, $10 per acre; No. 8, $10 per acre; No. 11, $40 per acre; No. 14, $5 per acre; No. 15, $30 per acre; No. 16, $15 to $20 per acre; No. 17, $13 per acre; No. 18, $15 per acre; No. 20, $25 per acre; Nos. 29 and 32, $25 per acre. Chisago Lake township, section No. 5, $75 per acre; section No. 6, $50 per acre."

Mr. BUTLER: Johnson's letter refers to the governmental section?

WITNESS: Yes, that referred to now, in his statement. "Township 34 north, in Chisago Lake township, section 33, $100 per acre; section 35, $60 per acre; Schafer township, section 31, $50 per acre; section 32, $50 per acre; section 33, $40 per acre; section 34, $35 per acre; section 35, $20 per acre where railroad runs; 36, bluffs, practically worthless. Lent township. Section No. 5, $12 to $15 per acre; section No. 8, $12 to $15 per acre; section No. 17, $10 per acre; section No. 20, $15 per acre; section 29, $20 per acre; section 32, $20 per acre. North Branch township. Section No. 4, $20 per acre; section No. 9, $15 per acre; section No. 16, $15 per acre; section No. 20, $25 per acre; section 29, $20 per acre; section 32, $10 to $12 per acre. Harris township. Sections Nos. 4 and 9, $15 per acre; No. 16, $20 to $25 per acre; section 21, $40 per acre; section 28, $40 per acre; section 33, $30 per acre. Rusheba township. Section 34, $30 per acre; sections Nos. 9 and 16, $40 per acre; section 21, $50 per acre; sections 28 and 33, $25 to $30 per acre." The state tax commission finds the true value of lands in Chisago county, $29.83 per acre.

Q. Mr. Morgan, you have spoken here of the true and market value of lands and have also used the term "value of lands for right-of-way purposes" on several occasions.

A. Yes.

Q. You heard a great portion of the testimony offered on behalf of the Complainant, with reference to the propriety of adding a certain amount to the market value of lands to ascertain what has been called a right-of-way value?

A. Yes.

Q. I would be very glad if you would explain the method followed by you in preparing the two tables Ex. OO and Ex. QQ, and discuss that question of the addition of the multiple.

A. In order to arrive at what is considered in Ex. QQ as

the value of the right-of-way of the railroads of the state of Minnesota, it became necessary to find out what some of the roads had actually paid for right-of-way, and it also became necessary to get a base to work from; and it was for that reason that we took the transfers of property to get the base. Then, on the same property we got what the Railway Company had actually paid.

The MASTER: When you speak of right-of-way value here, you have reference to what a railroad would have to pay for the property in order to acquire it for right-of-way purposes?

WITNESS: Yes.

The MASTER: It is a matter that you have already discussed quite fully in your testimony?

WITNESS: Yes. Now, in this matter, it was found that inequalities existed, which will be illustrated as I proceed through this, showing that an individual case in this cannot be followed any more than an individual case can be followed in the cities. We would find places where the railway companies paid perhaps ten times the normal value of the lands; in other cases they would get the lands for a normal value; but, considered as a whole, they had to pay more, and, therefore, to get the average, we took the transfers of property and what they actually paid. Now, along the line of the Illinois Central, in the southern part of the state, extending from Lyle to Glenville, in Mower county, we considered there 450 acres of land, adjacent to the line of the Illinois Central Railroad, which was transferred for $21,372.80, or an average of lands in Mower county adjacent to the line of the Illinois Central, of $47.50 an acre.

The MASTER: Approximately when?

WITNESS: That was during the last five years. In Freeborn county, we considered 3,047 acres of land, which was transferred for $151,231.50, or an average price per acre of $49.62. Now, we obtained from the records just what the Illi-

nois Central actually paid for its right-of-way in each of these counties; we found that in Mower county the true value of lands adjacent to the Illinois Central railway was $47.50 an acre; we found that the Illinois Central Railway Company actually paid, including damages, $190.98 per acre for the land that they purchased for their right-of-way. In other words, they paid four times the normal value of the lands according to the transfers.

Mr. BUTLER: A little more than four times, wasn't it?

Mr. HOW: 98 cents more.

WITNESS: In Freeborn county, we found, from the transfers, that the true value of land was $49.62. We also found that the average price paid by the Illinois Central Railway Company, for its right-of-way, including damages, was $96.96 per acre, or they paid 1.95 times the true value of lands as established from the transfers. Taking both of those counties together, we find that the average true value of the lands in Freeborn and Mower counties is $49.34 per acre, from the transfers, and the average cost of the right-of-way of the Illinois Central was $125.23 per acre, or they paid, on an average, of 2.53 times the normal value of the lands. We also considered the line of the Chicago, Milwaukee & St. Paul, from Farmington to Mankato, passing through the counties of Dakota, Scott, Rice, Le Sueur and Blue Earth. Considering 649 acres of land in Dakota county, we found, from the transfers of property, that it was worth $44.04 per acre. Considering 297 acres of land transferred in Scott county, we found an average of $45.14 per acre. Considering 1551 acres of land in Rice county we found an average of $47.18 per acre. Considering 4,641 acres in Le Sueur county, we found an average of $47.11 per acre. Considering 287 acres in Blue Earth county, we found an average of $45.58 per acre. In Dakota county, the Chicago, Milwaukee & St. Paul (which is a recently constructed line, within the past five years,) purchased 102.95 acres of

land at an average of $184.61 an acre. We found the true value of lands in that county to be $45.44 per acre, so that, in Dakota county, they paid 4.06 times the normal value of the lands. In Scott county, the Chicago, Milwaukee & St. Paul purchased 46.77 acres of land, at an average price of $102.08 per acre. We found, from the transfers, an average true value of $45.14. So that, in Scott county, the Chicago, Milwaukee & St. Paul paid, on an average, 2.24 times the true value. In Rice county, the Chicago, Milwaukee & St. Paul purchased 139.86 acres of land, at an average price of $137.82 per acre. We found, from the transfers, the average true value of land in Rice county to be $47.18, and the Milwaukee Company paid 2.92 times the true value of the lands. In Le Sueur county, the Chicago, Milwaukee & St. Paul purchased 358.89 acres, at an average price of $137.33. We found, from the transfers, that the average true value of farm lands in Le Sueur county was $47.11; the Chicago, Milwaukee & St. Paul Company paid, on an average, 2.91 times the true value of the lands. In Blue Earth county, the Chicago, Milwaukee & St. Paul purchased 29.23 acres of land, at an average price of $167.56. We found, from the transfers, the average true value of lands in Blue Earth county to be $45.58, and that the Milwaukee Company paid 3.67 times the true value of the lands. Now, considering this line of road, this particular new line in its entirety from one end to the other, that is, between Farmington and Mankato, we found that the average true value of farm lands adjacent to the line of that road is $46.86 an acre; that the Chicago, Milwaukee & St. Paul Railway Company paid, on an average, $142.89 per acre for the right-of-way that it acquired; therefore, for the extent of that line, on an average, they paid 3.05 times the true value of the lands.

Mr. BUTLER: Does that take in the villages, or purchases in Farmington and Le Sueur Center?

WITNESS: There were no purchases in Farmington.

Mr. BUTLER: Well, Le Sueur Center?

WITNESS: No, this is just the farming lands. Now, during the past six years, the Minneapolis, St. Paul & Sault Ste. Marie has built lines of railway in the northern part of the state, extending from Glenwood, north through to Thief River Falls, to St. Vincent, and from Thief River Falls across the Red River valley to Oslo. Commencing at Glenwood, in Pope county, we will first take up the average value of lands, from the transfers. We considered 1,747 acres that averaged $27.06 per acre. In Douglas county, we considered 469.52 acres, that averaged $40.74 per acre; in Otter Tail county, we considered 5,268 acres that averaged $16.93 per acre. In Becker county, we considered 2,148 acres that averaged $22.43 per acre. Across the White Earth Indian reservation, we considered 2,318 acres that averaged $8.77 per acre.

Mr. BUTLER: How many conveyances in that reservation?

WITNESS: There were twenty-four, but the lands across the Indian reservation had advanced in value; it had but recently been thrown open to settlement, and therefore, from inquiries made along the line through the county and of those who were familiar and accompanied us on the inspection of the Soo line, we used $20 per acre in the appraisal, which was based upon those inquiries, in place of the $8.77,—which, from the conditions we found there, was too low. In Polk county, we considered 827 acres, averaging $23.54 per acre. I may say that there were eight transfers considered here, and the sales were all immediately in the vicinity of Erskine, and they are not really a fair index to the values along the Soo line, as a whole, through that county. In Red Lake county, we considered 6,375 acres, at an average of $10.46 per acre; in Red Lake county, we considered 8,217 acres at an average of $20.54 per acre.

Mr. BUTLER: That is another part of Red Lake county, where you run west?

WITNESS: Yes, that is where we run west. In Marshall county, we considered 5,700 acres, at an average of $13.87. That is on the main line. And on the Kenmere line, we considered 9,313 acres, that averaged $23.54 per acre.

Mr. BUTLER: That is also in Marshall county?

WITNESS: Yes. Kittson county, 8,394 acres that averaged $19.56. Considering this mileage on the Soo, we found an average of $18.54 per acre. The average price paid by the Railway Company for the right-of-way, was $55.19, or it paid 2.98 times the true value of the lands as established from the transfers. Now, I think from what has been given here in respect to this right-of-way, that it shows there are variations in the different counties, and what I was seeking to do was to get at a fair ratio to apply to the already existing lines, and these were taken into account as a basis in arriving at it. It is the actual conditions, and when I say that the average ratio of three has been used, it is the relation between the true value of lands and what the railway companies actually paid for the right-of-way, and there is this continuity that, in considering all of the lines in the state, we have also taken the transfers, and we have applied the ratio to them which we found on these newly constructed lines.

Q. The result of your investigations, then, as I understand, Mr. Morgan, has been that if the inquiry was as to what a railroad company had paid for a right-of-way through agricultural lands and the smaller communities, at any given time, you could determine that by ascertaining the true value of the lands at that time and multiplying that true value by 3?

A. Yes; when considered on broad grounds. There would be individual exceptions to that, of course.

Q. Well, for instance, when you would reach the entire amount of such lands as were held by the Northern Pacific in the state of Minnesota, your ground would be broad enough, would it not?

A. Yes.

Q. And if, for the purposes of this case, it is to be ascertained what it would cost the Northern Pacific Railway Company to now acquire its right-of-way and station grounds outside of the three large terminals in the state of Minnesota, upon the assumption that the lands through which that right-of-way was located had their present value and were in their present condition, it would be necessary to multiply the true value of the lands so taken by three?

A. Yes.

Q. If the proper basis for the Court to assume, for the purpose of ascertaining a proper return, is the true value of the lands, that is given in Ex. OO?

A. It is.

Q. What you are attempting to do, upon this hearing, is to place the Court in possession of both facts, and full information upon the entire subject?

A. It is.

Q. Mr. Morgan, you have expressed a wish, I believe, to explain, somewhat more fully, what you meant by saying that you did not take into consideration the value of the land as a utility; now, do you want to add to your testimony upon that point any?

A. I do not know that there is anything further that I can say on that subject other than to repeat that, in making up an estimate on the cost of reproducing a road, I could not take into account that the roads existed; the whole hypothesis is that the roads are not in existence, and, therefore, the fact that there is utility there to-day was a subject that I could not consider and did not consider in connection with the question of cost of reproduction.

Q. Now, to sum up this branch of your work, will you please state the true value of the terminals of the Northern Pacific Railway Company in the city of St. Paul, as given in

the report of that Company to you, as you have described?

A. The market value of lands in the city of St. Paul, as returned in the report of the Northern Pacific Railway Company, is approximately $7,645,100. The true value of lands in the city of St. Paul, which was used as a base for arriving at the railroad value, is $3,491,043.

Q. And that amount is carried into Ex. OO?

A. That amount is carried into Ex. OO.

Q. Now, go on to Minneapolis.

A. In the city of Minneapolis, the report of the Northern Pacific Company gives approximately $4,042,076 as the market value. The true value, as established by the sales-method, and which was used as a basis to arrive at the railroad value, is $1,344,164. In the city of Duluth, the report of the Northern Pacific Company for market value is $3,527,704. The true value of lands in Duluth, as established by me and from which the railroad value was established, is $3,628,767. All other lands on the Northern Pacific, outside of the terminals, they returned a market value of $1,989,156, approximately. The true value of lands outside of the terminals, as established from the transfers of property and from other investigations, and which was used as the base for arriving at the railroad value of lands, is $1,034,124.

Q. And each of those amounts, so found by you, was carried into Ex. OO?

A. They were.

Mr. BUTLER: Did the last figures include station-grounds outside of St. Paul, Minneapolis and Duluth terminals?

WITNESS: Yes.

Mr. HOW: You don't mean all of right-of-way lands?

Mr. O'BRIEN: "All other lands in Minnesota."

Q. Items 2 to 29, inclusive, upon Ex. OO, are identical with items 2 to 29, inclusive, upon Ex. QQ?

A. They are.

Q. I now call your attention to item 2, "Grading, clearing and grubbing, $7,695,858.70." Will you please describe, with reasonable brevity, the method pursued by you for arriving at the total of that item? and in doing so, please exhibit to the Master some of the detailed data prepared by you.

A. Having, as far as possible, agreed with the officers of the Northern Pacific Railway Company, in respect to quantities, it became necessary to apply unit prices which would fairly represent the cost of doing the work. In the report submitted by the Northern Pacific Company on Section 1, which comprises the Duluth terminals, they turned in an average price of 27 cents per cubic yard, which was considered to be a fair price for that work, and I used the same unit. On Section 2, Bald Eagle to Duluth, the Northern Pacific Company used an average price of 35 cents per cubic yard. I found it, according to my judgment, necessary to reduce this to 30 cents per cubic yard. There is a considerable amount of work on that line that will cost 35 cents per cubic yard, some of it probably higher than that; but there is also a great deal of very simple side-borrow work on that line; and, considering that section of the line, 30 cents appeared to me to be a reasonable price to use. On Section 3, which is the Fond du Lac branch, the Northern Pacific Company returned 34 cents, and I used 30 cents. On Section 4, Carlton terminals, the price of 25 cents is the same. On Section 5, Carlton to Cloquet, 34 cents is a fair price for the work, as returned by the Northern Pacific Company. On Section 6, Groningen to Banning, the Northern Pacific Company used 32 cents a yard, which I believe to be too high, and I reduced it to 25 cents per yard. On Section 7, Rush City to St. Croix river, the Northern Pacific returned 27 cents; I used 25 cents. Section 8, Wyoming to Taylors Falls, the Northern Pacific returned 27 cents; I used 25 cents. Section 9, White Bear to Stillwater, the Northern Pacific returned 27 cents, and I used 25 cents. Section 10, state line

to Staples, the Northern Pacific used 34 cents; I used 32 cents. On Section 11, St. Paul to Bald Eagle, 28 cents is returned by the Northern Pacific Company, which was considered a fair price. On Section 12, St. Paul and Minneapolis lines A and B, 27 cents was considered a fair price. Section 13, Minneapolis to White Bear, the Northern Pacific returned 27 cents; I used 25 cents. On Section 14, Northtown Junction to Staples, the price returned by the Northern Pacific of 28 cents was considered fair. On Section 15, Little Falls to Brainerd, the Northern Pacific Company returned 25 cents, and I used 21 cents; on all of that line between Little Falls and Brainerd, it is nothing but side-borrow work, there is only one small piece of excavation on the entire line. On Section 16, Little Falls to Morris, the Northern Pacific used 27 cents, I used 25. On Section 17, Staples to Moorhead, the price returned by the Northern Pacific of 28 cents was considered fair. On Section 18, Wadena to Breckenridge, the price returned by the Northern Pacific of 23 cents was considered fair. On Section 19, Winnipeg Junction to Grand Forks, the Northern Pacific returned 25 cents, and I returned 21 cents, there is a great deal of side-borrow work on that line. On Section 20, from Fertile to Carthage, the Northern Pacific returned 27 cents and I used 25 cents. On Section 21, the Northern Pacific returned 14 cents. That is mostly side-borrow work, but I did not consider that 14 cents was enough to pay, considering all the expenses, and I raised that to 18 cents per cubic yard. Now, on an average, the Northern Pacific Company, for its System, returned 29 cents per cubic yard for all the grading. My average is 27 cents plus—a little over 27 cents.

Mr. BUTLER: That is, loose earth?

WITNESS: That is loose earth. On the solid rock, the price of $1.20, returned by the Northern Pacific, was a fair price, and we stand the same on that. On loose rock, the Northern Pacific returned 48 cents, and I used 50 cents per cubic yard,

raising their figures slightly. The clearing and grubbing was estimated at about $75 per acre by the Company, and I used the same figure as being fair. There is some difference in respect to the quantities of clearing and grubbing; for example, on the line between Winnipeg Junction and East Grand Forks, they returned 325 acres of clearing and grubbing. Assuming that 12 acres of right-of-way to the mile is a fair average, that would be equivalent to about 30 continuous miles of clearing and grubbing. That line extends through what might be termed the beginning of the rise from the valley of the Red river. There is no timber, no clearing or grubbing, on that line except where you descend into the valley of the Wild Rice for the south branch, and for the north branch there is a little clearing in the vicinity of Crookston, in the valley of the Red river. Beyond that it is a prairie country. For that reason I reduced the acreage of clearing and grubbing from 325 acres to 120 acres. That was also the case with respect to other sections; and that goes to make up some of the differences as between their figure and mine on the total cost of item 2.

Q. The prices used by you in estimating this work appear in detail in Ex. QQ, No. 13, I believe?

A. Yes, they do.

Q. Also a statement of quantities?

A. They do.

Q. Mr. Morgan, I wish you would tell upon what information and investigation you acted in reducing the prices from those claimed by the Northern Pacific.

A. I based my figures upon the experience I had had myself in engineering works, and also from a large amount of information that was obtained at the time of the inspection of the various lines. For example, there is the line (pointing on map) extending through here—

The MASTER: Between what points?

WITNESS: Between Detroit and St. Vincent. That line was

recently constructed. It is one that we have taken into account in arriving at the value of lands. Mr. Green, the chief engineer of the Soo line, who accompanied me on the trip, stated that the contract price for doing that work on that line was 21 cents, with some individual exceptions, but, as a rule, the price was 21 cents per cubic yard. Now, the conditions are very similar, if anything they are worse; that is, there is more cutting and filling on the line than there is on the line of the Northern Pacific, parallel to it; and yet it appealed to me that 21 cents would be a fair price to consider for that work.

Mr. BUTLER: Did you make any further investigation with reference to current prices paid for constructing grades during this period of five years of which you have spoken?

WITNESS: Yes; of course I had to take the examples that were both inside and outside of the state. The Minneapolis & St. Louis constructed the Dakota extension; the contract price was about 21 to 22 cents a yard.

Q. Are you able to say, from your general knowledge and experience as an engineer, and the special investigation that you made during the time you were performing this work, that the unit prices adopted by you are entirely fair to the Railroad Company?

A. I believe they are. One other means of arriving at a conclusion as to the cost of earthwork in Minnesota, was a deductive process, by which I considered what other roads had put in the cost of grading at. For example, the Soo line put its main line from Minneapolis through the state at 25 cents per cubic yard.

The MASTER: Average?

WITNESS: Average. And on other lines the price varied; but my judgment has been made up by considering what all of these different roads have put in the price of grading at, and from a personal inspection of each class of work and the prices that they have applied to it.

Q. I think you have already said that, in coming to your conclusion, you examined each portion of the road?

A. I did.

Q. And did you make that examination with reference to the yardage of material moved as reported by the Railroad Company?

A. Yes.

Q. And checked up the quantities?

A. Checked up the quantities and as to the price that they had put in.

Q. What investigation did you make for the purpose of ascertaining whether or not there was rock in embankment where it appeared according to the report that rock was claimed?

A. We had the profiles of the companies with us, and were able to tell, from the exposed excavations, the character of the material that was encountered, in each case. Now, one illustration I might make, concerns the Chicago, Milwaukee & St. Paul, where in their report the engineer had classified several hundred thousand yards of material, in the central southern part of the state, as loose rock. In going out over the line, we could not discover any, and coming back I had the train stop, at intervals, and we made soundings to find out if there was any rock there, and we could not locate any by that process. I then took the matter up with Mr. Whittemore, chief engineer of the Chicago, Milwaukee & St. Paul, called his attention to the classification, and he sent an engineer out to look it over again, with the result that, in the end, he changed his classification to earthwork.

Q. So that, during this entire period of three years, it has been your custom to call the attention of the different railroads to any discrepancy that you discovered, and to come to an agreement with them upon what the physical facts were?

A. It was.

Q. "Item 3, Protection Work, Rip-Rap, Retaining Walls." Explain briefly what you did to ascertain the value of that work.

A. The quantities turned in by the railway companies were carefully checked, so far as yardage was concerned, and prices applied to them that were regarded as fair, according to the character of the work.

Q. I think you stated that, in each case, when making an inspection of the work, you were accompanied by some responsible officer or officers of the company?

A. Yes.

Q. Did you say that, upon almost every line of road inspected by you, there was some work which was more or less recent?

A. Yes, that is true.

Q. And were you enabled to ascertain the prices at which that work was done?

A. Yes.

Q. And did you take those matters into consideration?

A. I did.

Q. "Item 4—Tunnels."

A. I think we adopted the figures of the Northern Pacific in respect to the tunnels that they have in the city of St. Paul, as being entirely fair; the main point of difference in respect to tunnels, as in their report and in mine, is the fact that they have included the Seventh street viaduct over their tracks; that is, it is a tunnel through which their tracks run, but it is an improvement that was made by the city of St. Paul and paid for by the city of St. Paul, and therefore I eliminated that from my estimate of the cost of reproduction.

Q. Otherwise you would practically agree with them?

A. Yes.

Q. "Cross-ties and Switch-ties."

A. On the examination of the Company's properties, we

made test counts in respect to the number of ties in the tracks (main track and side-track) and our estimate is based upon what we found, in the way of ties, and not what the Northern Pacific Company reported. I say that, with two or three exceptions. On Section 1, which is the city of Duluth, the Northern Pacific Company reported 3,107 ties to the mile, which we accepted. On Section 2, the Northern Pacific Company reported 2,696 ties to the mile, but from our test counts we found there were 2,992 ties to the mile, and we used our own figures. On Section 3, the Northern Pacific reported 2,796 ties; we found, from our own investigations, they had, on an average of 2,816, and we used our own figures. On Section 4, the Northern Pacific Company reported 2,831 ties, which we accepted as fair. On Section 5, the Northern Pacific reported 2,697 ties; we found from our investigations, 2,816. On Section 6, they reported 2,720; we used 2,816. On Section 7, they reported 2,756; we used 2,816. On Section 8, they reported 2,738, we used 2,816. On Section 9, they reported 2,981, and we used 3,168. On Section 10, they reported 2,684, we used 2,992. On Section 11, they reported 2,837, we used 2,816. On Section 12, they reported 3,262, which we accepted. Section 12 is the terminal of St. Paul and Minneapolis. On Section 13, the Northern Pacific reported 2,870; we used 2,992. On Section 14, they reported 2,818; we used 2,992. On Section 15, they reported 2,852; we used 2,992. On Section 16, they reported 2,834; we used 2,992. On Section 17, they reported 2,969, and we used 2,992. On Section 18 they reported 2,896; we used 2,992. On Section 19, they reported 2,214; we used 3,168. On Section 20, they reported 2,673; we used 2,992. On Section 21, they reported 2,807; we used 2,640. These figures that we have used here, are the result of actual counts; for example, we would lay down a tape of 52.8 feet and count the number of ties in that distance. 52.8 feet is one one-hundredth of a mile and the number of ties that you would get in 52.8 feet would

give you a fair index of the number of ties per mile. Now, we took these counts every two miles over the section and in that way we got at a very fair index of the number of ties per mile, on an average, for each section, which, in most cases, is in excess of the number of ties that was reported by the Northern Pacific Company.

Adjourned until Tuesday, December 29th, at 10 o'clock A. M.

CAPITOL BUILDING, St. Paul, Minn., Tuesday, December 29, 1908, hearing resumed at 10 o'clock, A. M.

DWIGHT C. MORGAN,
recalled on behalf of Defendants, testified:

By Mr. O'BRIEN:

Q. I think you were describing the methods and results with reference to item 5, cross-ties and switch-ties, when we adjourned last night.

A. Yes.

Q. Is there anything more on that?

A. This comparison of ties that I have made as between the number per mile returned by the Northern Pacific and the number per mile adopted in my appraisal—those figures are the net number of ties per mile, and do not include bridges, nor do they include switches, for which a special class of tie is used, known as a switch-tie. Switch-ties have been treated separately, and the bridge ties have been made a part of the cost of the bridge.

The MASTER: In your statement as well as in the report of the Railroad to the Commissioners?

WITNESS: Yes.

Q. But the switch-ties are included in this item?

A. In this item 5?

Q. Yes.

A. Yes; I have not referred to the switch ties yet; I have been speaking of cross-ties only.

Q. Did you examine the ties on each road in the same way?

A. I did.

Q. You say that you have not spoken of the switch-ties yet which are included in this item?

A. I have not.

Q. Well, now, what on that question?

A. Switch-ties are made up in sets, and are usually considered on the basis of so many board-feet measure per set. In respect to switch-ties on the Northern Pacific we accepted the board-feet measure returned by the Company, and allowed as many sets of switch-ties as they had switches, according to their report.

Q. In making the examination of the ties upon other systems, what did you ascertain?

A. On some of the lines, we checked very closely with the returns made by the companies, and on others, we found variations, as I have indicated in the case of the Northern Pacific; and I would like to refer to the Minneapolis & St. Louis line: In their report, covering ties in main track and sidetrack, separately, on section 1, from Minneapolis to Hopkins, the Minneapolis & St. Louis returned 3115 ties to the mile; we found 3168 ties to the mile. On the sidetracks in Section 1, the Minneapolis & St. Louis returned 4049 ties per mile of side-track; we found 2992. On Section 2, Hopkins to Albert Lea, the Minneapolis & St. Louis returned 3053 ties in main track; we found 3168. In sidetracks they returned 3341; we found 2816. On Section 3, Albert Lea to Emmons, the Minneapolis & St. Louis returned for main track, 3062; we found 2992; for sidetracks they returned 3201, we found 2816; on Section 4, Hopkins to Morton, the Minneapolis & St. Louis returned 3038, we found 3168. On sidetracks the Minneapolis & St. Louis returned 3201, we found 2816. On Section 5, Morton, South Dakota, to state line

the Minneapolis & St. Louis returned 3055, we found 2992, in the main track. In the sidetrack they returned 3378, we found 2816. On Section 6, Winthrop to the Iowa state line, the Minneapolis & St. Louis returned 3028, we found 2992. In the sidetracks they returned 3001, we found 2816. Now, that statement of comparison shows that the side-tracks have more ties than the main track, in some cases, which of course is very improbable.

Q. Did you, at the same time, make a particular examination of the ties?

A. Yes.

Q. With reference to their condition?

A. Yes.

Q. Size and character?

A. Yes, in a general way; that is, I observed the kind of ties, kind of timber, got an index of the general character of it as related to their reports.

Q. And I suppose you made complete field-notes of these matters?

A. Yes.

Q. Took notes at the time of your inspection?

A. I did.

Q. How did you arrive at the price of the ties?

A. I took all of the reports of the railway companies, and classified ties according to the kind of timber, and inserted the price at which each class of tie had been returned in the report. We found from the various reports of the railway companies, that oak ties ran from 60 cents to 85 cents each; that cedar ties ran from 45 cents to 75 cents; tamarack ties from 40 cents to 65 cents; hemlock ties 50 cents. That was treated hemlock ties, 50 cents; untreated hemlock ties from 40 to 50 cents. Untreated pine from 35 cents to 60 cents; other classes of ties, such as treated fir, 75 cents; elm ties 45 cents.

Q. In this item I observe there is a great difference between

the cost of reproducing new and present value?

A. Yes, there is.

Q. How did that arise?

A. That is an arbitrary basis, in which the estimated life of the tie is taken as ten years, and assuming that there are 3000 ties per mile, in the course of ten years, you would have equal annual renewals of 300 ties to the mile per year to carry through the period of ten years; so that the ties would practically be in half condition, in this way: there would be 300 ties that would be new; there would be 300 ties nine-tenths new; 300 ties eight-tenths new, 300 ties seven-tenths new, 300 ties six-tenths new, and so on down until you come to the tenth year, when your renewal of 300 ties again takes place and you are beginning over and on an entirely new maintenance of ties for each mile. On that basis, it would give about an average of 55 per cent condition. And, as I explained earlier in my testimony, when a tie is taken out, there is no salvage; it is burned; and therefore the condition that the tie is in also represents the value that attaches to the tie as related to a new tie.

Q. Is there anything else on that item, Mr. Morgan, that you desire to explain?

A. The prices I used in making up the appraisal for Minnesota was to take St. Paul, Minneapolis and Duluth as the basis of tie-supply, the soft ties coming from Duluth, largely, the oak ties coming from the South and being distributed from the Twin Cities; and on that basis we used for oak ties delivered in St. Paul and Minneapolis 70 cents; for cedar ties, delivered in Duluth 60 cents; for tamarack ties, delivered in Duluth, 50 cents; treated tamarack ties were put in our appraisal as reported; hemlock ties at 45 cents, and other kinds at 40 cents. To this was added, of course, the freight charges from the Twin Cities and from Duluth to the center of gravity of each section on the Northern Pacific railway in this state.

Q. Well, was that added in that item?

A. It is not added in this item; it is shown separately in the appraisal.

Q. It is shown separately in item 36?

A. Yes.

Q. This matter of renewal of ties is a part of the maintenance of way, is it not?

A. Yes.

Q. And it is included in operating expenses?

A. Yes. I may say here that that estimate of the present value was made up for one purpose that I had in mind; whatever other purposes there may be for it I am not prepared to say, but if property is assessed on an ad valorem basis, it would be necessary to have figures of this character the same as they apply to other classes of property that is assessed on that basis, and this gives a basis for that purpose, and perhaps for some other purposes with which I am not conversant.

Q. Well, it gives the facts, Mr. Morgan, doesn't it?

A. It gives the facts as nearly as they can be arrived at.

Q. And that was the object of your inquiry, to ascertain the facts?

A. Yes.

Q. And those are the facts as you ascertained them?

A. Yes.

Q. Now, item 6, Ballast. Do you desire to make any explanation with reference to that item?

A. Yes. In arriving at the cost of ballasting per mile, I also made a comparison of prices for doing that work on different lines in the state; found that there was in respect to this, as also the ties, quite a range in the figures turned in by the railway companies. For example, the Chicago, Milwaukee & St. Paul turned in its ballasting at 42 cents per cubic yard, in place; the Chicago & Northwestern at 40 cents per cubic yard—this is gravel ballast. The Chicago, Rock Island & Pacific, 50 cents; the Chicago, St. Paul, Minneapolis & Omaha,

from 41 to 48 cents; the Minneapolis Eastern, 42 cents. The figures of some of the roads were on a cost per mile basis, but in arriving at my own conclusions in respect to that, I considered that, for the Northern Pacific, 45 cents a yard would be a fair price to consider in reproducing that property in this state. That is considerably below the figures turned in by the Northern Pacific Company for ballasting. And in order that I might justify the figures which I had used in making up my price of 45 cents, I took into account all of the gravel-pits owned on the Northern Pacific railroad in the state of Minnesota. The Northern Pacific Company is very well provided with gravel-pits in this state, and if it should be assumed that an equal distribution of ballast should be made from each of the pits on the Northern Pacific System in Minnesota, the actual average haul for that System in this state would be twenty-five miles; but it had to be taken into account that some ballast is better than others, some pits worked better than others and are more extensive; and to take an equal division or equal distribution of the ballast from the various pits would not be fair. Mr. Darling, in his testimony, stated that forty miles would be a fair average haul for ballast on that System in Minnesota, and that was the basis that we used—40 miles. In one of the exhibits of the Northern Pacific, in respect to the cost of ballast, they show 81 cents per cubic yard. Now, in making up my estimate on the cost of reproducing the ballast on the Northern Pacific lines in this state, I have assumed that reasonable facility and opportunity would be afforded for performing the work; in other words, I have not assumed that, in reproducing the property it would, during the process of construction, possess the immense traffic that it handles today. The cost of ballast, as presented in the exhibits of the Northern Pacific Company, at 81 cents per cubic yard, is the cost figure of performing that character of work in certain localities where the line is under the burden of a very heavy passenger and freight traffic, which,

of necessity, very largely increases the cost of performing any service connected with repairs or improvements to roadway. No one can dispute that, in the example of cost cited by the Northern Pacific Company, it did not execute the work in an economical manner, or that the cost of the work is different than that to which claim has been made, taking into account the conditions prevailing and the circumstances under which the work was done. My belief is, however, that in estimating the cost of reproducing the Northern Pacific properties so high a figure is not justifiable, nor, under normal conditions, could such excessive cost prevail. The specific instance I have cited to show a cost of 81 cents per cubic yard in Minnesota, is on that section of the line between Staples and Fargo, traffic conditions upon which have been carefully analyzed by Mr. Howard Elliott, President of the Northern Pacific Company, and published in pamphlet form, entitled, "The People and the Railways," January 1907. Chapter 4 gives comparisons of the density of traffic on the Northern Pacific and other western railroads; also comparisons of density of traffic on important eastern railroads. On page 18, Mr. Elliott states: "On the Minnesota main line of the Northern Pacific, from Staples to Fargo, the traffic in October last, showed a density for the month, of 461,000 miles, which is at the rate of over 5,500,000 miles per annum." The comparison Mr. Elliott has made with respect to the density of traffic on this particular division of the Northern Pacific and other systems of railways, shows that it is exceeded only by the Pennsylvania Railroad, which has four main tracks upon which to handle its traffic, whereas, the Northern Pacific has but two main tracks, and, for a part of the distance, only one main track upon which to handle such an enormous traffic. It is, without doubt, a record of train movement that may be regarded with pride, but for the Northern Pacific Company to select this section of its line, red-hot with the requirements of such a traffic, where frequent interruptions, delays

and inconveniences to all kinds of track work must necessarily obtain, and when everything must be and is sacrificed to keep the regular business of the Company moving, such an example is not a fair criterion of the cost of ballasting the entire Northern Pacific railroad in the state of Minnesota, and is not in harmony with my understanding in dealing with the problem of reproduction cost. If the most difficult and trying circumstances under which ballast can be transported and put under the track is to be assumed as the basis in the estimate of the cost of reproducing the ballasting on the Northern Pacific railroad in Minnesota, then there appears good reason for the large difference that exists as between my estimate for doing that work and the estimate submitted by the Northern Pacific Company. The very close relation my estimates of ballasting bear to the estimates returned by substantial railroad systems in the state other than the Northern Pacific, justifies my belief that their interpretation of the cost of reproduction, like my own, has not been founded upon any such examples of cost as the Northern Pacific has adopted as a reproduction cost for that class of work on its lines in this state.

Mr. HOW: Are you giving this testimony on the basis that the Northern Pacific report is based on 81 cents a yard for its ballasting in this state, Mr. Morgan.

WITNESS: I am referring to an exhibit which was made in the case of the Northern Pacific, one of Mr. Darling's exhibits, which showed the cost of 81 cents per yard on that part of the line to which I have made reference.

Mr. HOW: Yes, but I am afraid the Master will understand that our exhibit of our cost of construction is based upon 81 cents. It is not, but 66; that was a particular instance of work that we had happened to do, but our estimate is not based upon 81 cents, which is the cost of that work. I am afraid the Master might have that impression.

WITNESS: I expected to explain that to the Master before

I got through with my testimony. I was citing this as a particular instance to show that 81 cents under those circumstances is probably not an unreasonable expense; then I expected to show that the cost of the ballasting put in by the Northern Pacific was and is 66 cents, as Mr. How has stated; but in view of the price which has been applied by other railway companies, and which are not so well situated with respect to the material for ballasting, I still believe that *that* price is much too high.

Q. Mr. Morgan, you have referred there to the extra cost of doing this work upon a road which is in full operation and maintaining a dense traffic; now, why should it cost more on a road of that sort than upon a road that was free from commercial business, or actually in the course of construction?

A. When a road is handling a heavy traffic, and track-work is being done of various kinds, ballasting, for example, the men are not permitted to proceed with their work without interruption. For example, it must be done in a certain way to at all times be able to sustain the traffic that is moving over it without unreasonable delay to trains. The run-offs which are made on ballast would not be necessary where there is not a heavy traffic. There is delay in the handling of material, the cost of getting the ballast on the ground; ballast trains are sometimes not permitted to be fully unloaded, but must get out of the way of regular traffic, and they are switched back and forth, and there are interruptions of all kinds in attempting to do ballasting where trains are moving over the track. Now, these conditions would not obtain where no traffic is moving or where only a comparatively small amount of traffic is moving.

Q. I take it that the main cost of ballasting is labor?

A. Well, no, it is not the main cost. There is a considerable percentage of it that is labor; the putting-under part is labor.

Q. Well, what is the main cost?

A. Well, the cost is divided between getting the material out of the pit—there is some labor expense attached to that—the transporting of the material and its distribution and putting under the track, that is a labor charge.

Q. Well, you have allowed the value of the material in estimating the value of the gravel-pits in item 1?

A. That is very true, so far as the value of the material is concerned, but it is the cost of handling that material.

Q. Well, the cost of handling it is the cost of the labor, isn't it?

A. Yes, it is a labor cost.

Q. Except the wear and tear upon machinery and except the fuel used, all the other cost is labor cost?

A. Yes.

Q. Now, if the men engaged in that work are kept idle for a large portion of their time because of the necessity of getting out of the way of the regular trains upon the road, the cost is increased just in the same proportion, is it not?

A. Yes, very materially increased. It is increased in greater proportion than that because of the particular conditions under which the work has to be done, that the track may be at all times ready to sustain the movement of a train over it. There is not the freedom that can be utilized in putting in ballast on a line under heavy traffic that there is on a line where there is a light traffic.

Q. Therefore, the illustration which was used by the witnesses for the Complainant showing the cost of ballasting the road at the particular point designated by those witnesses, is not a fair illustration, in your judgment?

A. It is not a fair illustration of the cost of reproducing the ballasting on the Northern Pacific road upon the basis under which I have assumed the Northern Pacific road would be reproduced. I do not question the accuracy of those figures as related to that particular work; I don't doubt but what

it cost every cent that the Northern Pacific Company has stated it cost, but I don't believe it is a fair basis to use, nor do I believe that the 66 cents is a fair basis.

Mr. HOW: All I want to make manifest is that we didn't use the 81 cents.

Mr. O'BRIEN: Well, that is apparent, Mr. How, because your claim for ballast is $1,900,000, and the allowance by Mr. Morgan is $1,200,000. Now, if your claim was 80 cents and his was 40 cents, there would be a greater difference.

Mr. HOW: I simply want to keep it manifest, that is all.

Q. If you will go on, Mr. Morgan, and state how you arrived at the unit price adopted by you with reference to item 6, Ballast.

A. The report of the Northern Pacific Company shows about 370 miles of single track in which the ballasting is about eighteen inches deep; about 103 miles of double track in which the ballasting is about eighteen inches deep, and about 416 miles of single track in which the ballasting is fourteen inches deep and less. Now, taking the ballast that is eighteen inches deep, which would practically give us eleven to twelve inches under the tie, and taking an extreme haul of 80 miles, or an average haul of 40 miles, on the ballast, an average output of the shovel of 1,200 cubic yards per day, or 20 cubic yards per car and 60 cars per day, we would have, first, the equipment required, its cost and depreciation. The total equipment required to ballast 80 miles of track would be represented by one steam-shovel, one 260-class engine for pit service, three 460-class engines for road service, three cabooses, twelve boarding cars, eighty ballast cars, two Lidgerwood unloaders, two plow-cars and plows, at a total estimated cost of $154,470. The depreciation on this equipment would vary from five to eight per cent per annum, and the depreciation per annum for the total amount of equipment required, would be $9,794.70. The depreciation per day would be $26.83. For the 253 days of de-

preciation, at $26.83 per day, would be $6,787.99 of depreciation in the equipment during the period that was required to ballast eighty miles of track. For 265,280 cubic yards, the depreciation per cubic yard would be 2.55 cents. The pit expenses, consisting of the crew operating the steam-shovel, was estimated at $36 per day; the cost of the train service in the pit per day is estimated at $27.05; the care of pit-tracks per day is estimated at $19.50, the total cost of operating the pit per day being $82.55. 221 working days required to get out the ballast for 80 miles of track at $82.55 daily pit expense, amounts to $18,243.55 for the 265,280 cubic yards required, which is $6,87 per cubic yard. Cost of train service hauling ballast: 265,280 cubic yards, at 20 cubic yards per car, would be 13,264 carloads; 13,264 carloads at 20 cars per train would be 663 trains; 663 trainloads at 40 miles, average load haul, 26,520 train miles; 663 train empties at 40 miles, average empty haul, (that is, going and coming) 26,520 train miles. Add ten per cent for switching and unequal distribution, making a total to ballast 80 miles of track 58,344 train miles. 58,344 train miles at 62.8 cents per train mile is $36,640.03, and for 265,280 cubic yards it is, for one cubic yard, 13.80 cents. Repairs to Equipment: The Northern Pacific annual report shows freight-car repairs per car per annum $66.89. Allowing ten per cent for facilities to make repairs, $6.68, the total repair per car per annum is $73.57, or 20.15 cents per car per day. 99 cars in ballast service at 20.15 cents each per day is $19.95. 221 working days, plus 32 Sundays, is 253 days; at $19.95 is $5,047.35. The Northern Pacific annual repairs to locomotives per locomotive is $1,974.31; ten per cent allowed for facilities to make repairs, $197.43; total repairs to locomotives per annum, $2,171.74; for 253 working days, at $5.95 per day, is $1,505.35. Now, we have four locomotives, making a total repairs to locomotives of $6,021.40, and the total repairs to locomotives and equipment for 253 days is $11,068.75, or for

the 265,280 cubic yards of ballast it is 4.17 cents per cubic yard. The stripping of the pit is placed at 1½ cents per cubic yard, which is the same figure that the Northern Pacific has used. The laying of the pit-tracks is placed at 1½ cents per cubic yard, which is the same as the Northern Pacific. The raising, tamping, lining and surfacing of gravel ballast, consisting of a foreman, forty laborers, one water-boy and one timekeeper, at a total labor expense of $77.25 per day. This crew should raise, shovel and rough-tamp on the first lift of eight inches, one-half mile of track per day, or two days per mile. The same gang should raise, tamp, line and surface, 1,320 feet per day on the second lift, or four days to the mile. For example, the first lift of ballast is easy; it is rough work and can be done much more rapidly than can the last lift, which is less, but in which the work must be more particularly and carefully done and finished. We have, then, six days labor per mile of track, at $77.25, amounting to $463.50, or, per cubic yard, 13.97 cents. Adding these several items together, they produce a total of 44.37 cents. We have used uniformly, on the Northern Pacific, 45 cents. Now, the statement I have been giving relates to ballast which is 18 inches deep. I prefaced that with the fact that there were over 400 miles of track on the Northern Pacific where the ballast was 14 inches deep and less, some of it only four inches under the tie. But, taking as a second basis, ballast which is 12 inches deep, and which would give us approximately six inches under the tie, and carrying that through on the same basis that I have outlined for the ballast which is 18 inches deep, we get a cost of 40.85 cents. So that I believe our figure of 45 cents, for ballasting the Northern Pacific, as a reproduction cost unit, is fair.

Q. Do you mean fair, or do you mean that it is too large?

A. I mean that it is fair. There are perhaps some things not possible to get at in an exact manner, but it is as near

the truth as I can arrive at it from the investigations that I have made and the study of the subject and a knowledge from a good many years of experience in putting in ballast.

Q. You stated that you used 45 cents per yard throughout the entire road?

A. Yes.

Q. Although in many instances and a great portion of it the actual depth of the ballast was less than 18 inches?

A. Yes.

Q. Item 7, Rails.

A. The rail was furnished in detail on the reports submitted by the Northern Pacific, and in going over the line and making these frequent stops every two miles, at each point we took observation of the weight of the rail, its brand and the date of its rolling, which is found upon all rail that comes from mills. It was found, in making the examination, that there were some places on the Northern Pacific where the rail had been changed out between the date of their report and the time of the inspection, and in such cases as that, we ascertained, from the officers of the Company, to what extent change had been made and then verified that by our own counts of the rail at each point of measurement. We have deducted from t[illegible]ail all the rail that can be considered in the frogs and switches, because in arriving at our unit cost on frogs and switches those costs include the cost of the metal in them which forms a part of the main track; therefore, we have deducted the frogs and switches and made a separate estimate in respect to those items. Our rail has been estimated at a cost of $29.75 per ton, delivered in St. Paul or Minneapolis or Duluth; the price of rails at the mills in Chicago during the past few years has been pretty uniformly $28 a ton, and in raising it to $29.75 we apply the tariff rate on rail to bring it to the Twin Cities; and the Eastern mills meet that competition via the Great Lakes to Duluth by boat;

so that $29.75 per ton at St. Paul and Minneapolis and Duluth is the actual cost of the rail here. Then we have, in our appraisal under item 36, allowed transportation charges on that rail to the center of gravity of each of the various sections into which the Northern Pacific road has been divided.

Q. Is there anything else with reference to that item that you desire to explain?

A. No, I believe not.

The MASTER: Does that differ from the report of the Northern Pacific?

Q. Judge Otis asks what was the unit price for rails as fixed by the report of the Northern Pacific to you.

A. It was very difficult for us to get at that, because they had included transportation charges on it, and didn't attempt to show a unit price on their rail. The total figure of the rail, as turned in by the Northern Pacific, is in excess of my figure on that item 7, but their figure includes transportation, which my figure does not.

Q. You mean their statement includes transportation from St. Paul or Duluth to the place where the rail was used?

A. Yes, under item 7.

Mr. HOW: Mr. Darling's statement, Ex. 3, shows a difference of about $400,000.

The MASTER: Yes, I see.

Mr. HOW: But it purports to cover transportation charges; Mr. Morgan's does not. I think the cost price of the rails is the same.

WITNESS: I think, if I recall right, there were some four or five miles of rail that was reported on the Fond du Lac branch of the Northern Pacific, that when I made the examination of the Northern Pacific properties I could not locate, and the Northern Pacific Company, through Mr. Kimberly, made a correction to me, but they never have corrected this

report in that regard.

Mr. O'BRIEN: Now, I desire to say, your Honor, that the item for transportation, which is item 36 in Ex. OO, while Mr. Morgan has said that includes the cost of transporting rails from St. Paul or Minneapolis or Duluth to the place where the rail was actually used upon the track, the total of that item is not sufficient to account for the difference between the amount claimed in the report of the Northern Pacific, which was $5,116,673.73, and the amount allowed by Mr. Morgan, that amount being $4,728,531.72, as the cost new. So, if, as I understand, there is no dispute as to the unit price the dispute is as to the number of tons of steel rail.

WITNESS: That is correct. I do not think the Northern Pacific made any deductions in their estimates for frogs and switches. So far as we have been able to estimate from their report they carried their rail right through without making those deductions, and in our estimate, as I have previously explained, I excluded those items.

Mr. HOW: The fact is that your allowance for the cost of rails is larger than our claim; that is, the amount of freight (which we claim is more than the amount of difference between us) made your estimate, if I remember, something in the neighborhood of $20,000 more than we claim for the cost of rails.

Mr. O'BRIEN: Well, now, let us see. Mr. How, I notice that, in Darling's Ex. 3, rails are carried at $5,116,673.73, the exact amount claimed in the report to the Railroad & Warehouse Commission made by the Company.

Mr. HOW: Yes.

Mr. O'BRIEN: Mr. Morgan finds the rails to be $4,728,531.-72 new.

Mr. HOW: Yes.

Mr. O'BRIEN: And $3,552,777.93 present value.

Mr. HOW: Yes.

Mr. O'BRIEN: That is $400,000 less. Now, how do you claim that we allow more?

Mr. HOW: We are not furnished with any details as to what the freight he allows on rails is. We have figured that out on the basis of weight.

Mr. O'BRIEN: We will give you that.

Mr. HOW: All right, then we shall know something about it. We figured that out upon the basis of weight, and we figured that he has allowed us a certain amount for rails on that basis.

Q. Mr. Morgan, you of course have a statement in your details as to the number of tons of steel rails?

A. Yes.

Q. Now, that amount does not include the metal composing track fastenings or the metal in switches and frogs?

A. It does not.

Q. It is simply the straight rail itself?

A. Yes.

Q. Between the switches and frogs?

A. Yes.

Q. Now, give us the total number of the tons of rails of that character.

The MASTER: Straight rails?

Mr. O'BRIEN: Yes, sir.

A. I haven't that data prepared in just that way, but I can have it a little later. It is in my details, but I haven't the total number of tons at this time. I can have it this afternoon.

Q. Will you do the same for item 9?

A. Yes.

Q. In other words, give us the items which go to make up the totals of items 7 and 9.

A. Yes.

Q. I now call your attention to item 8, Track Fastenings.

A. In arriving at the cost of reproducing the track fastenings we had, given in the reports of the railway companies, the weight of the angle-bars, the size of the bolts used, and from that information we were able to apply unit prices to arrive at the reproduction cost. I think our figures are a little higher than those returned by the Northern Pacific on that item, because there were certain heavier weights of rail inserted since the date of their report; that also carried with it heavier angle-bars, larger bolts. The figures, I think, are pretty close together.

Q. Item 10, Track-laying and Surfacing.

A. Track-laying and surfacing, in the interpretation of the term as used in the cost of reproducing the Northern Pacific Railway, includes the transporting, distribution and fastening together in their proper relations all of the materials which enter into the building of track. Surfacing, as included, is the work necessary and ordinarily attendant upon the construction of a railway to put the tracks in serviceable condition for the movement of construction and ballast trains. It is not intended to include the cost of the surfacing, finishing and trimming of track in the sense that the term "surfacing" is applied to ballasted tracks or to tracks that are to be put in a finished condition from the materials conveniently at hand and taken from the sides of the roadbed. The elements of cost upon which we have estimated track-laying and surfacing are, first, the contract price for laying track, $275 per mile; now, there are instances, many of them, where the contract price is more than that, but it is confined to small branch lines, comparatively small when considering the extent of the Northern Pacific System in this state; and all things considered, on an important piece of work of constructing 1,200 miles of track, $275 should be the outside expense attached to such a contract. The switches on the Northern Pacific average 1.91 switches per mile; at $25 each for putting

in, $47.75; surfacing for construction service, $28.25; handling of construction material, $67.35; construction, train service, consisting of one engine and crew with a track-laying machine, and one engine and crew hauling material and serving material-yard, $61.34 per day; equipment required and its depreciation, amounts to $5.93 per day, which, on the basis of laying one mile of track per day, would be also $5.93. The depreciation on the locomotives, amounting to $3.42, would make a total depreciation on equipment of $9.15. Repairs to equipment would amount to $12.69 per day, or per mile of track. Repairs to locomotives $11.90 per day, or per mile, making a total of $24.59 for construction equipment and power. Summing these items up, we have a total estimated cost to lay and surface one mile of track, $513.63; we have used in our appraisal of the Northern Pacific an average of $520.32. We also took into account on this subject what the railway companies had returned in their reports for the item of track-laying and surfacing. Some of the figures we regarded too high, according to my idea of what this item should constitute. The Chicago, Milwaukee & St. Paul returned $500 per mile for track-laying and surfacing on its 1,200 miles of main line in this state; the Chicago, St. Paul, Minneapolis & Omaha returned $605.76 per mile; the Wisconsin Central returned $550; the Duluth & Iron Range returned $400; the Duluth, Missabe & Northern, $450; the Northern Pacific returned $851.89; the Great Northern Company returned $835. From the investigations that I have made myself in respect to the items of cost entering into this, and from the reports of the railway companies, as above cited, I concluded that an average of $520.32 for the Northern Pacific in this state was a fair figure.

Q. I call your attention to detail 17, Complainant's Ex. 3—Darling; the first group of items upon that detail, aggregating $120.50 per mile, is made up of rental of equipment.

Now, should that item "rental of equipment" be added to the total which you have given, and if not, why not?

A. I do not think that rental of equipment should be allowed on the reproduction cost. We have in that estimate allowed the cost of reproducing all of the work equipment possessed by the Northern Pacific Company, and they own a large amount.

Q. That is, Ex. OO includes the cost of reproducing the entire equipment of the Northern Pacific road at this time?

A. It does, as related to the state of Minnesota.

Q. And in that equipment is included work equipment ample for the construction of the road?

A. It is.

Q. And you have in your estimate included the depreciation in that equipment resulting from its use in this work?

A. I have.

Q. To allow, then, an item of rental of equipment in addition, would be a clear duplication, would it not?

A. If I used it, yes.

Q. Further than that, the allowance for interest contained in Ex. OO covers interest upon the amount expended for equipment, does it not?

A. It does.

Q. The third group of items in detail 17, Complainant's Ex. 3—Darling, constitute the labor cost of doing the work, and the aggregate of those items is $392.15?

A. Yes.

Q. This work is ordinarily done through contractors, is it not?

A. Yes, with modern machinery and track-laying machines that is done under contract.

Q. Did you ascertain the ordinary contract price per mile for track-laying and surfacing?

A. For track-laying, I made inquiries in respect to the

cost; it has been quite difficult to get full or definite data on that subject. I received some information from the Soo line in respect to the contract for building its new Duluth line, and I believe they are paying about $300 a mile. On the Milwaukee extension, so far as I have been able to gather information, I think they are paying about $250 a mile. Inquiries from Winston Bros. in regard to track-laying—they were unable to advise me the price for track-laying at the present time, but their estimate was that $250 per mile, for a large job, would be a very liberal price, at this time. Now, that information was obtained in 1908 and there had been depression in prices and work could be done cheaper during 1908 than it could prior to that time; so that in arriving at a figure of $275 it appeared to be fair.

Q. I now call your attention to item 11, Bridges, Trestles and Culverts. Your allowance upon that item is about 75 per cent, roughly stated, of the amount claimed by the Northern Pacific Railway Company?

A. It is, about that.

Recess until 2 p. m.

AFTERNOON SESSION.

Q. During the recess, Mr. Morgan, did you look up the information we requested concerning the number of tons included in your estimate for rails, item No. 7?

A. I did. In making up our estimate of the cost of reproducing the rail on the Northern Pacific lines, we found on the System in this state, 62,984 lineal feet of track that was in the form of frogs and switches. That represents 11.9 miles. Taking the average weight of rail on the Northern Pacific at 66.95 pounds per yard for the 11.9 miles, it amounts to 1,255 gross tons of rails, which at $29.75 a ton is $37,336.55. Of the rails in the main track of the Northern Pacific, exclusive of frogs and switches, we found for tracks

owned, 158,613.59 gross tons, and in the Northern Pacific's proportion of joint tracks owned in Minnesota, 328.65 tons, making a total of 158,942.24 gross tons of rail on the Northern Pacific System in Minnesota.

Q. What does that amount to at the price per ton allowed by you and as to which, I believe, there is no dispute?

A. It amounts to $4,728,531.72.

Q. And that includes freight from Chicago to St. Paul at $1.75 per ton?

A. Per gross ton, yes, sir.

Q. That item of freight is included in item 7 and is not included in item 36 of Ex. OO?

A. The freight on rail to the center of gravity of each section is not included in the figures that I have just given, of $4,728,531. That was subsequently added, and, for the rails, amounted to $117,956.68.

Q. I don't know that that is perfectly clear: The freight on the rails from the mills to St. Paul is added in the price you have fixed for rails as part of the total appearing in item 7?

A. Correct.

Q. In other words, you have estimated the price of the rails free on board cars at St. Paul?

A. I have.

Q. Now, the cost of transporting those rails along the track to the place where they were used, is included in item 36?

A. It is.

Q. In speaking of rails, as I understand it, your testimony includes all rails upon side-tracks, double-tracks, branch lines and all the rails upon the System?

A. All the rails upon the system.

Q. In Minnesota?

A. In Minnesota

Q. With regard to item 9, Switches, Frogs and Railroad Crossings, you have given us the tonnage and value of the steel, but that is much less than the total of that item; what goes to make up the balance of item 9?

A. I do not know as I understand your question. We deducted the metal necessary to provide the switches, frogs and railway crossings from the rail; therefore, item 9 is the cost of switches, frogs and railroad crossings complete, including the material of which they are constructed.

Q. That is what I wanted to get at. The value of the iron in that item you have already given us; how much was it?

A. That was merely a rough approximation of the metal in the frogs and switches; it amounted to $37,336.55.

Q. Well, the total of item 9 is $259,590.36?

A. Yes.

Q. I wanted to know what other elements went to make up that total, aside from the value of the metal.

A. The cost of manufacture and the price complete at St. Paul or Minneapolis, ready for transportation out on the line for use.

Q. And includes freight to St. Paul?

A. Yes.

Q. Now, we will go back to item 11, and I will ask you to describe that item in detail.

A. In arriving at the cost of reproducing the bridges on the Northern Pacific of different classes, we also had the estimates of other railway companies for work of a similar character and class, and it was from the consideration of all this data which was presented by the different lines of road that we arrived at what appeared to me to be reasonable figures to apply to the Northern Pacific System in Minnesota. On plate-girders the average price returned by the Chicago, Milwaukee & St. Paul, the Chicago & Northwestern, the Chicago,

Rock Island & Pacific, the Chicago, St. Paul, Minneapolis & Omaha and the Minneapolis, St. Paul & Sault Ste. Marie was 3.38 cents per pound, erected. We used in our appraisal 3.5 cents per pound, erected, and, in addition to that, made an allowance for false-work where the bridge was of such a character as to require it. On truss-bridges, the same roads returned an average of 3.82 cents per pound. We used 3.75 cents per pound, and allowed for the false-work in addition.

On draw-spans the same roads returned 4.12 cents per pound; we used 4.15 cents per pound, allowing for the false-work in addition.

Q. You have several times spoken of arriving at prices and have referred to the fact that you compared the prices as claimed by the different companies.

A. Yes.

Q. In every instance did you make sufficient independent investigation to satisfy yourself as to the correctness of the prices eventually adopted by you?

A. Yes, I did.

Q. So that in no case did you rely exclusively upon the prices reported to you by the companies?

A. Oh, no, it was a matter in which I used my own judgment from the experience that I had had on bridge construction, which comprised the building of the Cairo bridge across the Ohio river, the building of the St. Louis Merchants' bridge across the Mississippi river, and bridge-work of a very extensive character on the Chicago & Alton road, and I have quite extensive data in respect to bridge-work and its cost which was made use of by me in connection with this work in arriving at the unit prices that we have employed; and, as a further justification of that, I made these comparisons from the figures of the railway companies.

Q. I intended my question to be somewhat broader, Mr. Morgan. You have confined your answer to the item of

bridges. Now, I want to know whether you followed the same practice with regard to each of these items.

A. Yes.

Q. That is, exercised your independent judgment, using these different reports for what they were worth?

A. Yes. I think there was no material difference in the quantities of bridges. It was quite difficult to get at the unit prices that had been employed by the Northern Pacific Company; they were not shown, the figures were in lump sums. The cost of the mason work was not separated from the cost of the superstructure, but in analyzing their figures —for example, I found that all of the superstructure and substructure in the Grassy Point drawbridge, at Duluth, had been included in the Minnesota appraisal, and half of that bridge is in the state of Wisconsin.

Mr. How: Was that corrected, or does that error still exist in the Northern Pacific's report?

Mr. O'BRIEN: It must exist, Mr. How.

WITNESS: I have not attempted to correct the report of the Northern Pacific. I called their attention to that item, however.

Mr. O'BRIEN: Mr. How, for your information I would be glad to say, that with the exception of items 1 and 2, Darling's Ex. 3 is an exact duplicate of the totals as to the report furnished Mr. Morgan.

Mr. HOW: Yes, I know that.

Mr. O'BRIEN: Well, then, this item was carried into Darling's Ex. 3 at exactly the same amount it was reported to Mr. Morgan in which he describes this error having occurred.

Mr. How: He has spoken, in one or two instances, of errors which he called the attention of the Company to, and they were corrected, and I wanted to know, for my own information, whether this was one of them, or whether that error has been carried through.

Q. Now, if you will take item 12, Track and Bridge Tools, $27,797. That is as in their report and in Ex. OO, there seems to be no change?

A. Yes; there is no difference with respect to track and bridge tools. That item is the same, because, in analyzing their figures of cost, we found them to be reasonable, and adopted them.

Q. 13, Fences, Cattle-Guards and Signs.

A. Fences, cattle-guards and signs were arrived at from our own investigations as to the cost of different kinds of fence, depending upon its character, the character of construction, the number of posts, boards or wires that were strung, and it ran from $267 a mile to six and seven hundred dollars a mile, on different lines, according to the character of the construction; and we had, from the report of the Northern Pacific, its various classifications of fencing, and used our unit prices in respect to it.

Q. Were the fences, cattle-guards and signs gone over in detail?

A. They were. The cattle-guards were turned in, I think, at the same figure that the Northern Pacific Company had put them in.

Q. Item 14, Stockyards and Appurtenances. How did you get at the amount of that item?

A. We made our own investigations as to the cost of constructing stockyards and established our unit prices, but before applying them to the Northern Pacific Company they were compared in detail, and where there was material difference special consideration was given in each case.

Q. Going back to the last item, Stockyards and Appurtenances, item 14, state whether the quantities reported to you by the Northern Pacific were as you found them, or whether the difference arises only from the difference in unit prices.

A. I think the quantities were the same as returned on

the Northern Pacific in respect to stockyards.

Q. And what investigation did you make to ascertain the unit prices?

A. Well, we took the price of lumber and labor and estimated the cost of constructing stockyards, and the prices of windmills and of pumps and of putting down wells and of all of the work attached, the building of sheds connected with the construction, complete, of the stockyards.

Q. Went through each item and each detail separately?

A. Each detail separately. We have it shown here in our quantities in great detail for every item that enters into it.

Q. Will you give your unit prices for fences?

A. Cost of board fence per mile: Beginning with four boards, 330 posts per mile, $324.38; four boards, 660 posts per mile, $435.90; six boards, 330 posts, $434.58; six boards, 660 posts, $549.85. Barbed-wire: 330 posts, three wires, $152.28; four wires, $166.22; five wires, $177; six wires, $190.97.

Q. Mr. Morgan, I have understood that you have several times offered to permit an inspection of all of these details by the Complainants and their counsel.

A. I have. I should be very glad to have them go over them.

Q. Now, item 15, Water Stations.

A. Our figures vary from the Northern Pacific's in respect to water stations, and that is due almost entirely to the unit prices that have been employed. We have made comparisons with other lines on the subject of water stations. Take, for example, the Chicago & Northwestern, which returned in its report $125,879 for the cost of reproducing its water stations. According to our unit prices we arrive at a reproduction cost of $145,654. The Chicago, St. Paul, Minneapolis & Omaha returned $137,000; we arrive at $140,755. The Minneapolis, St. Paul & Sault Ste. Marie returned $109,724, and we arrive at $111,936. The Northern Pacific report returned $289,490,

and we arrive at $218,861.17. There appeared to me to be no good reason why our unit prices, which actually raised the figures of some of these other roads that were some of these other substantial systems in the state, were not fair to apply to the Northern Pacific.

The MASTER: It was a difference in unit prices?

WITNESS: It was a difference in unit prices, yes.

Q. Item 16, Coaling Stations.

A. We pursued our own investigations in regard to coaling stations. They are of very different types of construction, and each road had to be considered separately according to the character of the coaling stations that were in use, and in most instances, from our own investigations, we found that the cost of reproduction as returned was a fair one. I think our figures exceed, slightly, those turned in by the Northern Pacific.

Q. 17, Station Buildings and Fixtures.

A. I think I discussed that subject earlier in my testimony, showing the basis of square-foot areas for estimating the cost of station buildings, and the fixtures were shown separately in the reports, which consisted of the equipment of the station. The report of the Northern Pacific in respect to station buildings is not divided in the same way that my report is. They included a good many things under station buildings that in making up my own report we transposed into miscellaneous buildings, so that while our figure for station buildings is less than that turned in by the Northern Pacific our estimate for miscellaneous buildings (item 18) is in excess of the report turned in by the Northern Pacific.

Q. And the total of those two items?

A. The total of those items, as turned in by the Northern Pacific, is $1,710,580.35. The total of those items, as estimated by me, is $1,728,011.93, which is slightly in excess of their figures when considering those two items together.

Q. At this point I wish you would read your letter of instructions to your assistants who were charged with the duty of making an examination of these buildings.

A. I don't know as I understand exactly what you mean by my letter of instructions. These buildings were all examined personally by myself and by my assistants, and they were measured under my observation, and the records kept of the figures, and they were inserted right in the inventory of the report of the Northern Pacific Company, either checking the figures which they had turned in as to dimensions or modifying them according to the measurements which we found; and as I have previously stated, we found quite a number of places where there was a variation in the areas of the buildings, due to, I think, the fact that perhaps some of the measurements turned in by the Northern Pacific were taken off from the plats rather than that the buildings had actually been measured; and they had oftentimes been changed, and in most cases extended perhaps a little. In estimating our unit prices for buildings, however, we didn't apply them in making up our compilations without judgment. Now, that question arose the other day in connection with my testimony, but at that time I didn't recall an instance, but I do now, for example, the depot at Little Falls is a very fine station building, differently constructed than the ordinary type of railroad building. Now, if we had attempted to apply our unit prices for an ordinary station building to that structure, we would not have come anywhere near the cost of reproducing that particular structure. So that in cases of that kind we took particular pains to be governed by reason and judgment and the facts as we found them.

Q. What I had in mind was that where a building was of peculiar construction you did make a particular examination of that, did you not?

A. Yes.

Q. So that the work of ascertaining the value of that building was a special piece of work done by you personally?

A. Yes.

Q. Where the building was of a character to which the unit prices applied, in your judgment, I presume the work of making the computations was done by your assistants?

A. Yes, but in getting out my instructions to my assistants I prefaced station buildings in this way: "Before accepting our values according to our unit prices on station buildings as final in the compilation, compare the values on the different station buildings with the values placed on them by the Railway Company, and if any large discrepancies appear, owing to the Railway Company not having dimensions correct or otherwise, special consideration will be given these cases upon application." In other words, our men, in making these compilations, had instructions not to pass these things, but to take them up, and they did so. There were hundreds of questions placed before me every day in respect to this work as it was going on, and from my note-books and from my personal knowledge of these properties, I was able to direct them that they might do their work intelligently.

Q. That is what I was referring to, Mr. Morgan.

A. I didn't understand your question.

Q. I remember your showing that to me one time here, and I wanted to bring that out. No. 19, "Steam and Electric Power Plants, Gas Plants."

A The report of the Northern Pacific Company on steam and electric power plants and gas plants is $196,338.64. Our report on that is $168,562.69. That difference is due largely to the fact that they had included, under item 19, some things which we transposed in our estimate as properly belonging under item 20, "general repair shops;" so that their item of general repair shops of $1,142,512.12 has been increased to $1,183,201 in my estimate.

Q. The total of items 19 and 20, then, are practically the same?

A. Practically the same.

Q. 21, Shop Machinery and Tools.

A. 21, shop machinery and tools is returned by the Northern Pacific Company at $436,542.72. My estimate on shop machinery and tools is $450,185.94. Now, that difference is due to the fact that in making an examination of their shops at Staples, Brainerd and other points in the state, we found machinery that had not been reported, and we took that into account in our estimate of reproducing the road.

The MASTER: Machinery acquired after the report was made?

WITNESS: Some of it was, yes. And there were some omissions; for example, the Minneapolis & St. Louis had quite a number of omissions of machinery that had been there for many years, and it required quite a substantial change in their report to bring it up to show a correct inventory of what they had.

Q. Your report is of a later date, as you have already explained, than the report of the Northern Pacific?

A. Yes.

Q. Now, what did you do in order to ascertain the value of the machinery and tools found by you?

A. Well, I had catalogues of the costs of machinery, and made comparisons as between the catalogue prices, and from information that I received from men who were familiar with the cost of that class of machinery, and made comparisons in the reports of the railway companies covering machines of the same type. Now, of course there are great refinements in machinery, and some little attachment may make a difference of several hundred dollars in the cost of some machines; some machines have a belt-drive, others would have an electric-motor drive; and while we endeavored to get at the de-

tails of this and substantiate what they had, it was impossible in every respect to check, to substantiate fully the exact cost of each machine. Some of them had been there for many years, machines that are not constructed now at all; but, from the investigations we did make, the prices, as a rule, were very fair and we concluded to use them.

Q. In addition to using catalogues, did you inquire at and visit manufacturing establishments?

A. Yes, I have been through a great many manufacturing establishments for the purpose of examining machinery and knowing about it and its cost. I satisfied my mind fully in the matter or I should have changed the figures.

Q. Item 22, Engine Houses, Turn-tables and Cinder-pits.

A. The figures in respect to engine-houses, turn-tables and cinder-pits practically agree. There is some slight difference. We established our own figures from investigations made, and I have had my own experiences in constructing engine-houses and turn-tables and cinder-pits and machine-shops, and satisfied myself fully in respect to our figures, and, applying them, we arrived at substantially the same figure that the Northern Pacific does in its report.

Q. Item 23, "Track Scales."

A. Our figures are about $4,000 under the figures of the Northern Pacific on track scales. We used our own figures on that from information obtained as to the cost of scales and the cost of installing them upon different classes of foundations, pile and timber, concrete and timber walls, on mud-sills, stone and brick, pile-and-stone and pile foundations.

Q. 24, Docks and Wharves.

A. Our figures are about $4,000 over the Northern Pacific on docks and wharves. We measured up all of the docks and wharves owned by the Northern Pacific Company in Duluth, and provided ourselves with information in respect to the costs of that class of construction, and we accepted in each

case the reports of the railway companies on docks and wharves, provided they came within reason.

Q. 25, Interlocking Plants.

A. The Northern Pacific report is about $4,200 in excess of my estimate. I prepared my own cost of reproduction on interlocking plants. Having spent some years in connection with that class of work, I felt perhaps well qualified to estimate intelligently on the cost of reproducing work of that kind. In checking up the reports of the railway companies in respect to interlocking plants at the crossings, we found some conflict as to the ownership. Perhaps an interlocking plant would be reported by both companies as owning it entirely. Now, the ownership was divided between them on different bases, and those things had to be corrected up as we came to them, in each case. I was under the impression that there was one such case in connection with the Northern Pacific but in checking it over, I find it was connected with one of the other lines.

Q. Item 26, Signal Apparatus.

A. Our figures are about $1,800 below those turned in by the Northern Pacific. We accepted the figures of the railway companies where they were found to be reasonable, and I was under the impression that we had accepted the figures turned in by the Northern Pacific Company on signal apparatus. I haven't the data in front of me just now to specify why that difference is, but can get that later.

Q. Well, that is a very small amount.

A. That is a very small amount.

Q. Item 27, Telegraph Lines and Appurtenances.

A. We had our own data in respect to the cost of constructing telegraph lines, and the figures of the railway companies were checked with reference to those costs, and where they were found reasonable we accepted them. In the case of the Northern Pacific, we accepted the figures turned in by

them. The report of the Northern Pacific on telegraph lines and appurtenances was very complete; it was worked up by Mr. Green, the superintendent of telegraph, and was very complete.

Q. Is there a difference in the amount?

A. There is no difference in the amount.

Q. Item 28, Telephone Lines and Appurtenances.

A. The same as with respect to 27.

Q. 29 we have already gone over.

A. 29 has been considered.

Q. 30 has been considered?

A. Yes.

Q. 31, Locomotives.

A. The figures in the report of the Northern Pacific are not on the same basis as ours. Our figures are those for the year ending June 30, 1907, during which time there had been considerable increase in the locomotives owned by the Northern Pacific Company, and we sent to them for statements from which to correct the original report and bring it up to date. When that report was submitted, together with the percentage of engine mileage in Minnesota, we found some engines that were engaged in interstate business that had been reported at 100 per cent chargeable to the state of Minnesota. I immediately took the matter up with the Northern Pacific Company in an effort to get that rectified, and it made a difference; when the proportion of mileage made by those engines outside of the state of Minnesota was considered, it made a difference of $264,777.75 in the amount properly chargeable to Minnesota, and the Northern Pacific Company corrected its report accordingly.

Q. And the additional locomotives were added?

A. The additional locomotives were added.

Q. So that the amount allowed by you in Ex. OO of $3,230,790.51 is almost the same as the amount claimed in Com-

plainant's Ex. 3—Darling?

A. Almost the same.

Q. The claim on that item made in Complainant's Ex. 3—Darling is practically the same as the amount found by you?

A. Yes.

Q. There is a difference of $30,000, I believe?

A. Something like that, yes.

Q. Your allowance being that amount less?

A. Yes.

The MASTER: How did you determine the amount to be assigned to Minnesota with the engine that was doing inter and intra-state business,—on a road mileage basis?

WITNESS: On an engine-mileage basis.

The MASTER: An engine-mileage basis?

WITNESS: Yes; it was the total mileage of the engine on the operating division and the relation that total mileage bore to the mileage made in the state of Minnesota, and a proportion on that basis.

Q. Item 32, Passenger Equipment.

A. There were also changes in passenger equipment, and we requested the Northern Pacific Company to furnish additional data in respect to that. They did so, and the report was corrected and brought forward to June 30, 1907, showing the additional equipment properly assignable to Minnesota.

Q. And the amount found by you is somewhat larger than the amount reported, or the amount shown in Ex. 3—Darling?

A. Yes; there is a difference on that account. There is also a difference from the fact that the percentage of passenger-car mileage in Minnesota to the total passenger-car mileage on the System was reduced from 20.47 per cent to practically 19.47.

Q. Item 33, Freight Car Equipment.

A. We also addressed the Northern Pacific Company in

respect to freight-car equipment, and they furnished a supplementary statement from which the original report was corrected to June 30, 1907. I made my own investigations in respect to car mileage on the Northern Pacific and in connection with other matters connected with this appraisal I looked up in Washington the car mileage reported to the Interstate Commerce Commission, and found some differences which the Northern Pacific Company explained to me upon my return here, but in so doing it developed that there had been some mistake in the work-train mileage, and that was changed to conform to correct figures; so that the percentage for June 30, 1907, as returned by the Northern Pacific at 23.43 per cent was reduced to 22.66 per cent, when those corrections had been made.

Q. However, the net result was that the value as found by you was increased?

A. Yes.

Q. Quite a considerable amount?

A. Yes; that is due to new equipment that they had reported.

Q. Item 34, Miscellaneous Equipment.

A. That was treated in the same way, with the additions and deductions.

Q. And the amount was increased?

A. And the amount was increased by reason of the purchase of additional equipment.

Q. There was no equipment under item 35, "Marine Equipment"?

A. None reported; none owned.

Q. I now call your attention to item 36, Freight on Construction Material.

A. Freight on construction material, as included in my report, covers, as per the foot-note, cross-ties, rails, track fastenings, switches and frogs. The unit prices that had been

employed in respect to all of the other items entering into the reproduction of the road were regarded sufficiently high to cover transportation charges to the point of consumption. But in respect to these items which could be gotten at in quite an intelligent way, as we thought, we decided to consider them separately and use the prices which were pretty firmly established in the markets and add the freight on this material. We assumed that the Northern Pacific line in being reproduced in this state would start from St. Paul and from Duluth, working on the main line towards Staples, and on the old St. Paul and Duluth both ways, first from St. Paul and from Duluth, and from Duluth west along the old main line of the Northern Pacific; and with that as a basis, our freight was figured in accordance with those bases of operations and, of course, it varied for the different sections according to their location. We used five mills a ton a mile as construction rate, except in such cases as we thought the tariff rate should apply. For example, the St. Paul & Duluth line being constructed from the city of St. Paul and from the city of Duluth, on this end of the line are soft ties, and Duluth is our base for soft ties; we therefore had to transport the ties from Duluth to St. Paul at the tariff rate, before we had brought them to a point where they were available for construction and use on this end of the line; on the other end, we assumed that we would use the Great Northern line as far as Carlton and begin the distribution of material from there south. So that, as far as possible, we endeavored to consider the matter intelligently and along such lines as we believed would have to be followed if the line was built.

Q. You say that where you considered the material was transported upon the Northern Pacific line you made an allowance of five mills?

A. Five mills per ton per mile.

Q. How did you arrive at that figure?

A. Five mills a ton a mile has been a construction charge that has been common for a great many years. The relations (that I happen to know of) between the North-Western road and the Omaha road in the transportation of material that the Omaha road needs for its lines in Minnesota, which has come to Chicago are that it is moved over the North-Western at five mills a ton a mile. The most of the roads in the state have put in a construction rate of five mills a ton a mile, although I think the Milwaukee used four mills a ton a mile. It is an arbitrary charge, and is presumably made up to roughly cover the cost of the service.

The MASTER: Supposed to be approximate?

WITNESS: Just approximate.

Q. Did you make any investigation of the Northern Pacific books in connection with this charge?

A. I did not.

Q. In connection with what freight charge was it, Mr. Morgan, that you did make an investigation of the Northern Pacific books for the purpose of ascertaining the price?

A. Well, I don't recall that I made any investigation in regard to construction prices.

Q. I thought you at one time visited the general offices for the purpose of ascertaining the cost as carried upon the books.

A. Well, I went down there to look up some cost in respect to running ballast trains; that is, in respect to the running of trains, that I might work up some statistics in regard to the cost of running ballast trains; and from the investigations made by me they were probably incomplete, but served my purpose in connection with that subject. But I think, as related to the item of construction costs, there would be no connection.

Q. I knew you had made such an investigation, and it was with reference to the transportation of ballast—

A. Yes.

Q. —and not to the transportation of material such as we are now considering?

A. No. I am inclined to think that the Northern Pacific used five mills a ton a mile; I am not sure about that; it would be very difficult to get at. No, they used the tariff rates.

Mr. DURMENT: Yes, in Minnesota, but four mills per ton a mile outside of Minnesota, as I remember it.

WITNESS: I am speaking now of the record submitted to me: that, on material shipped out on their line in Minnesota, for its reproduction, the regular tariff rates were applied and not the construction rate which I used.

Q. Item 36 does not seem to be reported in the report to the Commission.

A. The Northern Pacific report did not show anything for item 36, but the freight on construction material was distributed over the various items and included in a part of the cost over which it applied, and was not taken separately as in my report.

Q. Do you know whether or not any of the roads operating in Minnesota use a lower charge than four mills per ton per mile?

A. I do not.

Q. Item 37 we have already gone over. Item 38, Stores and Supplies in Minnesota.

A. That is the same as turned in in the report of the Northern Pacific Company. I considered the figure to be a very reasonable one for a system of the size of the Northern Pacific. I know, from my own experiences, that on a road of substantially the same mileage as there is for the Northern Pacific in the state of Minnesota, several million dollars of supplies were almost always on hand. That varies from time to time, but the figure is unquestionably a reasonable one considering the character of the line and its importance, and

while it was impossible to check the various items which go to make up that total, yet from my experience in connection with the operation of roads and knowing something of the amount of material that is carried, no question could be raised as to the reasonableness of that figure.

Q. The next item (which is unnumbered), Interest During Construction, etc., we have already gone over?

A. Yes.

Q. In Ex. OO there is a second column headed, "Present Value." Was that column prepared with the same care and the same attention to details as was the first column under the heading "Cost of Reproduction New?"

A. Yes, column headed "Present Value of the Physical Properties" is a modification of the figures of column 1, "Cost of Reproduction New," and represents the deterioration by time and use and the present value of the various elements, taking into account the wear and tear which has taken place. The basis upon which present value could be established is necessarily an arbitrary one; there are some questions connected with it that are perhaps very difficult to determine with precision, but they can be arrived at in a fairly intelligent way in most respects. We know something from experience of the life of locomotives; we know something from experience as to the life of freight cars; we know how our bridges last and how our ties last, how some of our buildings last; and so, with most of the items, there is an opportunity to arrive at a pretty intelligent estimate of the present value. Now, that varies on different roads according to the standards at which they are maintained. Some roads are maintained at a higher standard than others; they will not let their ties get into such poor condition; they will not let their cars or their locomotives or their buildings run down, so that there is an opportunity to discriminate, depending upon not only the standards of construction but the standards of main-

tenance.

Q. Did you discriminate between the different roads in coming to your conclusions?

A. Yes; it was necessary to do that in a way. We found, of course, that the standards on a good many of the roads in the state were about the same; on some others they were not so high.

Q. What I desire to know is whether or not, in preparing this second column, it was prepared with reference to the Northern Pacific Railway Company and the specific property which you examined.

A. It was.

Q. And represents your deliberate judgment as fully as column 1 does?

A. It does.

Q. And was prepared with the same attention to details?

A. It was.

Q. Now, there is one other general question I want to ask you. In, I think table 13, which gives the unit prices for moving material, I find that you have allowed, for moving solid rock, about $1.19 per cubic yard.

A. Yes.

Q. Is that not rather a high price for moving solid rock?

A. Yes, it is; and probably, in discussing that subject yesterday, I should have stated more in connection with that price. Now, there is a great difference in the cost of handling rock, depending upon its character; for example, in some parts of the state, we find a soft, stratified lime rock, that can be excavated for from 80 cents to a dollar, and along the line of the Northern Pacific in the northern part of the state the rock encountered is a very hard, basaltic rock, which would probably cost $1.25 or perhaps $1.50, some of it, to excavate; and in that way it was necessary to consider these things separately, and, placed opposite your values, they

would fairly represent the cost of doing each class of work; and that is the reason that the price of $1.19 on the Northern Pacific gives substantially the same as they turned in, because, from a personal examination of the conditions, it would cost all of that, on an average, to excavate that class of rock.

The MASTER: You make but three classifications; I think Mr. Darling made four.

WITNESS: Yes.

The MASTER: Hard-pan, how did you—?

WITNESS: I didn't consider hard-pan. It was a matter that could not be arrived at in an intelligent way unless the original records of the Company could be made available, and they were not available. The price I have placed upon earthwork includes the hard-pan and the earthwork together.

Q. Is the unit price allowed by you for earthwork larger than the unit price claimed in Mr. Darling's Ex. 3?

A. I couldn't say as to that. I think Mr. Darling's unit price is higher than mine

Adjourned until Wednesday, December 30th, at 10 o'clock A. M.

CAPITOL BUILDING, St. Paul, Minn., Wednesday, December 30, 1908, hearing resumed at 10 o'clock, A. M.

DWIGHT C. MORGAN,
recalled on behalf of Defendants, testified:

CROSS-EXAMINATION.

By Mr. BUTLER:

Mr. BUTLER: We are not certain that we can, without interruption, complete the cross-examination of Mr. Morgan. Certain matters are being prepared by some of the witnesses that were called on the part of the Complainant, but we can examine for a time, at any rate, on some general matters

concerning which he testified in his direct examination.

Q. Mr. Morgan, at the time you commenced your work as engineer for the State, I gather, from something that you have said or read in your direct examination, that there was a resolution of the Railroad and Warehouse Commission of the State upon the subject of the valuation of the railroads of the state.

A. Perhaps the word "resolution" was not exactly the word to use; I should possibly have said that it was the official action of the Commission appointing me engineer of the Commission, and of course that would be, in one sense, a resolution.

Q. Well, is that in writing, any writing or minute of it, that you know about? I would like to get the exact terms of that, if it is in existence.

A. I cannot say as to whether the Commission—

Commissioner STAPLES: I will bring it up to you.

Mr. BUTLER: All right.

Q. There were no general instructions, then, in writing, as to the scope of your work?

A. There were none, no, sir.

Q. And with respect to its scope and the method of doing it, that was your own?

A. It was a plan that I prepared and submitted to the Commission, from time to time, and which they fully understood in every way.

Q. That is as the plan developed and as the work progressed, you consulted ond counseled freely with the Commission with respect to both the method and the substance of the work?

A. I did, and furnished them monthly reports of the progress of the work as it advanced.

Q. Now, the purpose of the valuation was to furnish a basis to aid in the establishing of rates, was it not, and not for the purpose of taxation, or for the purpose of the financial control of the railway companies?

A. Well, probably I am not in a position to say wholly as to that. The scope of the work—it was sought, I think, to make it as broad as possible, so that it might apply to different problems, and perhaps the basis which would be proper for one problem would not be proper for another, and in that way it was broadened to show the cost of reproduction and present value.

Q. Well, your understanding was, that inasmuch as the method of taxing the railway properties of the state was the indirect, or gross earnings method, the purpose of this investigation to get at one of the facts touching the value, was primarily for the purpose of rate-making or rate regulation?

Mr. DURMENT: We object to that as immaterial, and that he is not the man, in any event, to determine what the purpose or object of it was; that would be for the Commission that employed him, and ought to be a matter of record if there is any such purpose or object.

The MASTER: The witness will answer.

A. That was a subject that was discussed by the Commission, in my presence, and I know that the question of a basis for rate-making was one of the important questions raised.

Q. Your understanding was that it was the primary purpose of the thing, wasn't it?

A. Yes.

Q. Now, when you commenced your work, were you furnished by the Commission any data or estimates of value or cost of reproduction new, of the railway properties of the state, which data you have relied upon and used as the basis of the estimates which you have recently made and reported to the Commission?

A. The Commission handed me two reports on the cost of reproduction and present value of the Iron Range roads, which were made some years ago. That information was not made use of, and the Commission did not furnish me with any data

or information, nor did they direct me as to the use of any data, that either they had or that I might procure from them in any way.

Q. These data with respect to the Iron Range roads were some years old?

A. Yes.

Q. And were not used at all?

A. No.

Q. Did there any facts appear of record with respect to the cost, reproduction cost new, or the value of the Northern Pacific railway properties, or the properties of any of the companies engaged in this litigation, and were the same in the office of the Commission, and were the same used by you to any extent?

A. No.

Q. So then your work was new work, as far as this state is concerned?

A. Entirely so.

Q. Do you know whether or not the Commission had any data of the kind that I have referred to?

A. I do not.

Q. As far as you know, there was nothing of record, or in the possession of the Commission, of value to you in establishing a valuation of the railroad properties?

A. Nothing that I utilized to any large extent. Of course, there were some data in respect to railroads generally.

Q. Well, maps showing locations perhaps—

A. Yes, maps showing locations.

Q. —and the like, but nothing touching the subject of the value of properties?

A. No.

Q. Now, you of course informed yourself, as fully as it was possible to do so, by general reading and professional research, to get at a proper method to follow in this matter?

A. I did.

Q. What other states, if any, that you know of or knew of, have undertaken a problem similar to the one that you undertook in Minnesota?

A. The states of Michigan and Wisconsin have prepared valuations for taxation purposes, within recent years, and I had data in respect to that valuation (the one in Wisconsin in particular, because I participated in that work in making up the estimate of the reproduction cost of the Omaha properties in Wisconsin).

Q. As far as you know, has any other state undertaken what we may call a physical valuation of railway properties, except Wisconsin and Michigan?

A. Yes, the state of Washington made a valuation of the physical properties of railways, which was begun subsequent to this, but finished earlier, because it was not nearly so complicated a proposition as we have here; and there has been a valuation of railway properties from time to time covering some years, in the state of Texas.

Q. What was the purpose of the valuation in Washington, taxation or rate-making or rate regulation, do you know?

A. I couldn't say definitely. I think it was a rate-making basis. I know that some of the data that was prepared there was used in the Spokane rate case.

Q. And in Texas, do you know the purpose of that, whether for taxation or rate-making?

A. I think the purpose of the valuation in Texas was largely in connection with the issuance of new capital.

Q. That is, for the regulation of the financial operations of the railways?

A. Yes, and perhaps to a certain extent as a rate-making basis.

Q. Did you, in your plan or method of doing this work, follow the plan of either Michigan or Wisconsin?

A. No; there were certain things in connection with the Michigan plan that didn't appeal to me, and the same was so in respect to the Wisconsin plan; for example, in the state of Michigan, the authorities in charge of the valuation undertook to do the work independent of any co-operation on the part of the railway companies, and that process resulted in a duplication of the work on the part of the railway companies afterwards in order to verify if possible what had been done by the state authorities, and it led to delay. In the state of Wisconsin, the plan pursued was different in this respect, that there was no substantial examination of the physical properties of the railways in that state. Take the case of the Omaha properties; as I recall, we divided the line into some seventeen sections in the state of Wisconsin, and the authorities, after receiving the report, shook up the numbers of the sections in a hat and picked out a number, and that was the number of the section which they went out to examine; and if they found the conditions right on that section they assumed that it was right on the entire system.

Q. Aside from the distinctions that you have made, was your method substantially the same as that in Michigan and Wisconsin?

A. Yes, of course the same method would have to be applied because it related to the same subject. The distinction, I think, lies mainly in the fact—

Q. Of the thoroughness of the work—

A. Of the thoroughness of the work.

Q. —rather than anything else, I judge from what you have said. Now, this problem of determining the value, or, indeed, the reproduction cost of railway properties, is really in its infancy, and it cannot be said, can it, Mr. Morgan, that there is any generally recognized plan or scheme for doing that sort of work, which is recognized as authoritative or standard by railway companies, state officials or your profession?

A. Of course, engineers have been engaged in making estimates for a great many years, individually, on different classes of construction work. Perhaps the lines of operation by which these things may be determined are in some respects pretty well established, and in other respects they might not be so well established; the work of valuing railroads, as a whole, by state lines, of course is comparatively new, and I have not asserted, I think, in my direct testimony nor should I assert now, that it is perfectly done. I have tried to get at the facts according to such information as was available from all sources and arrive at the truth so far as it was possible to do so.

Q. Well, it is not over-stating it, is it, to say that there is no method or complete scheme for the valuation of railway properties which is generally recognized by authorities on that subject? Of course, there may be recognized methods of mere inventory, but I mean a complete plan or scheme for such work.

A. No, I think probably that there is no fixed method by which work of this character could be proceeded upon. I can say this, that were I to do this work in Minnesota over again, there are certain things that I might modify the methods in, a little. It is not an established method that can be laid down and accepted by everybody as representing the best.

Q. Then it is fair to say, isn't it, that, with respect to many of the important elements of this work, you were really pioneering in the work?

A. Yes, there was a good deal that I had to dig out for myself.

Q. Both as to the principles involved and the method of applying the principles to the problem in hand?

A. Yes.

Q. And now, in the light of your experience, you think if you had the work to do over again in this state, or similar

work in any other state, that you would probably modify your scheme some?

A. In some respects, yes; that is, particularly with regard to the gathering of the data. Now, in preparing the forms for this work, I had no guidance to work by; and in the very short time that was allotted to me to get out these forms upon which to report all the details of the railroads of this state, it was impossible to make them as perfect as I could do now, having the experience of receiving this data from all the roads and analyzing the different interpretations that were placed upon various items that were inserted in the reports.

Q. The forms, then, that were made up, by means of which you called for certain information from the railroad companies, were invented by you?

A. They were, to a large extent.

Q. And was the terminology or nomenclature to a great extent also your own?

A. Yes.

Q. Now, I have tried to gather from your report, which you have permitted me to read since your examination commenced and your testimony, a statement of the principles upon which I understand that you proceeded in the work of establishing this reproduction-new cost of the physical railway properties, and I want to see if I have them as you intend that we should understand them. Now, did you apply a rule substantially as follows: The cost of reproduction was assumed to be what it would cost to reproduce the road at the average prices prevailing for a period of five years (taking 1905 as such average) entirely new in every particular, in a reasonable time for the construction, if the entire railway were assumed to be eliminated, its right-of-way, yards, stations and terminals were in the hands of others and occupied as the adjoining lands, whether in the city or in the country, are occupied, as farming lands and residences and industries, and

the like?

A. I think that is substantially what my basis is, yes.

Q. That is to say, applying that rule to the Northern Pacific Railway Company, the conception was that its properties were lifted from the places where they now exist, and then the further assumption that the lands now occupied by that Company were occupied by industries, residences, wild lands, pastures, agricultural lands and the like, just as those contiguous to the right-of-way and terminal lands of the Northern Pacific are now in fact used and occupied?

A. Yes.

Q. In the Northern Pacific case, as I gather from you, (your direct examination) you assumed that the reproduction in Minnesota would be effected in a period of four years?

A. Yes.

Q. You have made reference to other companies more or less through your direct examination, and I take it to be the fact, Mr. Morgan, that you did not assume the same period for the properties of each company involved?

A. No, no.

Q. But for each property you assumed a period which, under the circumstances, seemed reasonable to you?

A. That is what I did.

Q. When did you figure that the time would begin to run, at the organization of the company whose purpose it was to reproduce the property, or at the commencement of the work of construction? That is, usually, I think, Mr. Morgan, there is a considerable period of time elapsing for the organization of the company, arranging financial matters and organization and the like of that. Now, when did you figure in getting at this four years' period for the Northern Pacific reproduction that the time would commence to run?

A. That was figured as a basis of time required to construct the line.

Q. After the physical work commenced?

A. After the physical work commenced.

Q. That does not allow any time preliminary to the commencement of the work; that is, prior to the breaking of ground?

A. Not perhaps specially, although it might; on a proposition of this kind it would be very difficult to fix upon the exact time in which the road could be reproduced.

Q. Well, you did not have in mind or take into account the lapse of time that might, perhaps necessarily, would, occur prior to the breaking of ground for the physical work?

A. No; like any project that men work upon, sometimes they work for a long time for nothing before they get a property that will produce something.

Q. Yes, it takes a long time to plan the company and the financial organization, and all that sort of thing, does it not?

A. Yes, sometimes it does take a long time.

Q. And that time was not, of course, taken into account in this four years' period of the Northern Pacific?

A. No; this is a construction proposition entirely.

Q. That assumes a company completely organized and ready to go to work on the building of the road?

A. Yes.

Q. In the form 51, which is the final summary sheet, I find the expression over the top of the last column "Present Value."

A. Yes.

Q. Now, I want to make certain that we have a correct understanding of that expression, because, on its face, it might be ambiguous. As you intend us to understand it, is it this: The present value of the physical properties was assumed to be an amount equalling the cost of its reproduction new, minus the amount covering the depreciation in value from lapse of time, wear and tear, and the like?

A. That is correct.

Q. And in all instances would be less, if there was any change, than the reproduction-new cost?

A. Yes.

Q. In your scheme of analysis of the problem, this present value, if not the same as cost of reproduction new, would, in each instance, be less than the reproduction-new cost? it would not be more in any case?

A. It would not be more in any case.

Mr. O'BRIEN: Will you let me suggest, Mr. Butler, that that answer is not intended to apply to the roadbed.

Q. The enhancement of reproduction cost new of the roadbed by lapse of time, accompanied by proper maintenance, you have carried in an item in your analysis called Adaptation and Solidification?

A. I have, yes.

Mr DURMENT: Another thing, if I may call attention to it, Mr. Butler, under the first item there, "Lands for Right-of-way, Yards and Terminals," they are identical both with present value and the new cost.

Q. This "present value", then, does not take into account the element of usefulness or suitability of the instrumentality referred to, but is simply reproduction cost, less the value of the effect of time and wear and tear?

A. Yes.

Q. All considerations of value as an operating tool are omitted by you in your estimate under the designation "present value"?

A. Yes; the same as they are for reproduction cost.

Q. Yes, I so understood, but I wanted the record to be perfectly clear about that. Now, with respect to your land valuations, I wish you would tell me whether or not the following is a substantially correct statement of your rule. In determining the land valuation, the land was classified as city terminals and rural right-of-way; the market value—that is,

the selling price between individuals—was arrived at on the assessment basis and sale-price basis, described quite fully in your direct-examination, and this was called, on the forms furnished to the railway companies, the "average market value per acre" to which you added, in the city, a factor—in this city 75 per cent and a certain other factor in Minneapolis, and another, perhaps, in Duluth—and in the country you added a factor of 300 per cent, to cover the additional cost because land must be purchased or taken from the owner against his will by the railroad company, and to cover the severance damages?

A. Yes, that is correct.

Q. Now, I would like to have you state, Mr. Morgan, as applied to the city of St. Paul, by way of illustration, your method of getting at the average market value by means of the assessment basis and sales-price basis (if I am using these phrases as you intended them to be used) and make that so plain and simple that an ordinary schoolboy would be able to do the thing. And if you will undertake to state the rule with precision, first, then we will illustrate it.

A. The general rule applied to the city of St. Paul in determining the true value of lands was as follows: As the assessed value of lands sold is to the consideration paid, so is the assessed value of the real estate for the entire assessment district to the full value thereof. Now, in considering the question of land values in the large cities, we found from the investigations that were made, that there was quite a range existing between the assessed value of property and its sale price. Sometimes the assessment was much above 60 per cent, in other cases it was much less than 60 per cent, but those individual examples if taken would but tend to confuse, and therefore it was necessary to consider this problem upon broader ground, and in that way the inequalities, which worked both ways, would be more nearly equalized and bring us to a tol-

erably fair basis upon which to work.

Q. Well, I wanted to get just the rule, if I can. Now, let me see if I have it, by way of application, in St. Paul. There were examined by you and others, the deeds which evidenced bona fide sales, "normal sales," you call them, of property during a short period of years in this city. Now, after having found the consideration paid, you went to the assessor's office and found the assessed valuations of the property and established, in each instance, a percentage showing the relation of the assessed value to the consideration expressed in the deeds?

A. Yes.

Q. And then you took the sum of the considerations and the sum of the assessments and got at an average of the whole; is that the idea?

A. That is correct.

Q. And this examination covered the entire city?

A. It covered the entire city of St. Paul.

Q. And as a result of it you got or established in St. Paul, to your own satisfaction, at least, the fact that, generally speaking, within the corporate limits of this city, the relation of assessed value to actual market value, on sales between individuals, was 60.2 per cent?

A. For the city as a whole.

Q. For the city as a whole. Now, you do not claim, Mr. Morgan, that that rule, applied to a single tract, or, indeed, to a few tracts, would indicate a true result?

A. No.

Q. You think it does fairly well indicate the relation of the assessed valuation, as a whole, to the real value or market value, as a whole, in the town?

A. Yes, from my investigations it seems to represent that fairly.

Q. Now, you made reference to a report of a special com-

mittee appointed by the common council of this city, of which Mr. Read was a member, he being also a member of the committee of real estate men who made appraisal for the railroad companies. This work was undertaken, as you understand it, wholly without reference to any application of the figures for any particular purpose except to report to the public authorities about how assessment compared with actual value?

A. That is my understanding of the inquiry.

Q. And it was a mere coincidence that that happened about the time you engaged in this work, and you hunted up the report and made such use of it as you thought was proper under the circumstances?

A. Yes, it was made use of in connection with the work partially; that it, it was one of the bases that we utilized.

Q. And that report, I believe, disclosed generally with respect to the wards or municipal assessment districts of the city where the tracts examined were?

A. Yes.

Q. And the range of percentage, running from about 30 or 34, I think, to 138?

A. Yes, it was quite a range.

Q. And covered about 2,000 assessed tracts?

A. I think something like that number.

Q. Do you know how many assessed tracts there are in St. Paul?

A. No, I do not.

Q. Do you know whether or not all of these instances that that commission examined were vacant property?

A. Some of it was and some of it was not.

Q. And that of it that was not, the consideration in the deed, I suppose, did not, as a rule, separate the selling price of the improvements from the selling price of the land?

A. Not necessarily, no.

Q. That, ordinarily, is the rule, is it not, that if a man sells

an improved lot, the consideration expressed in the deed covers everything sold?

A. It does.

Q. And the probabilities are that, in the bargaining, there is no separation of the land value from the improvement value?

A. No.

Q. And do you know whether those gentlemen dealt with that problem or not?

A. I think they did, in a way. I didn't pay a large amount of attention to that feature of it.

Q. You think they had some scheme or ceremony by which they undertook to ascertain what was the aggregate amount of consideration to cover the land, and what was the aggregate amount of consideration to cover the improvements upon the lands of these various tracts that they examined, as having been sold, as evidenced by the deeds?

A. I don't recall now.

Q. You think they did have some such scheme, do you?

A. Well, I understood that there was some such scheme, yes.

Q. Do you know the aggregate area of the tracts examined by those gentlemen?

A. No, I do not.

Q. Do you know the aggregate area within the territory of the city of St. Paul?

A. I haven't made any figures on that.

Q. No, but speaking generally. I kind of think I have seen it in the directory, or some place, how many sections there are in this town, but I can't remember. Can you tell us?

A. Well, I don't recall now; probably about 55 square miles.

Q. 55 governmental sections of land?

Mr. O'BRIEN: Oh, no, 55 square miles, he says.

Q. Well, 55 governmental sections; a section is a square

mile, isn't it? I am right about that.

Mr. O'BRIEN: A section is a mile square.

Mr. BUTLER: Well, it is the same thing, a mile square and a square mile is the same thing, but two square miles and two miles square are not.

Mr. O'BRIEN: I think not.

Mr. BUTLER: Well, let us have the expert tell us.

Q. That means 55 governmental sections of land, does it not?

A. Yes.

Q. That would be, if it were in shape,—it would be five sections wide, five miles wide by eleven miles long?

A. Yes.

Q. Now, when that fact is called to your attention, it is apparent to you, is it not Mr. Morgan, that the land examined by the special committee of the council, in area, was a very, very small percentage of the area of this city?

A. Yes; as I stated that was only part of the information that we had.

Q. I know; I will come to the rest; we will go at it step by step. Now, can you give me an approximation of the fraction, or per cent, or percentage, as the case may be, of area examined on this assessment basis, compared to the whole area in the town?

A. No, I have made no figures on that.

Q. But you are of opinion that it would be much less than one per cent, are you not?

A. I couldn't say, off-hand.

Q. Well, I don't want you to guess at it, but if you have in mind—

A. I have made no figures along those lines. I would not object to answering the question if I had the facts before me.

Q. I am just trying to make some guess at it as we talk about it. Now, the percentage that these gentlemen reached

was 60.2, was it, the exact figure you took?

A. Yes, about,—I didn't take that figure, no.

Q. That was the exact figure that you used?

A. That they obtained.

Q. And you obtained the same, or verified that by—

A. Well, yes.

Q. That was the figure that you used, 60.2 in St. Paul?

A. Yes.

Mr. DURMENT: That was 60.

WITNESS: I used 60, even.

Q. Now, in addition to that, your men, under the direction of the tax commission, examined transfers, including the same ones examined by the special committee appointed by the council, and others covering a longer period, as I understand it, and, in like manner, established a percentage indicating relation, as they thought, between assessed value and real value?

A. Yes.

Q. Did that commission make any report to you, or did you have access to any findings of the commission, showing what facts were taken into account to get at the percentage which they finally indicated to you?

A. The commission furnished me a letter showing what they had taken into account in the city of St. Paul, that is, showing what the ratios were in the city of St. Paul.

Q. I would like to see it, if you have it.

A. The difference in the report of the tax commission from that of the special council commission is this, that the special council commission considered transfers upon the assessment districts of the city; the state tax commission considered the ratio upon the wards of the city.

Q. Yes, a difference in subdivision of territory?

A. A difference in subdivision, yes.

Q. And the percentage which they reported to you was 57.432?

A. Yes.

Q. The letter which you have just handed me, dated July 7, 1908, addressed to you and signed by Rukard Hurd, secretary of the Minnesota tax commission, is the information furnished to you by that body?

A. Yes.

Q. The Northern Pacific Railway does not touch the seventh ward of this city, does it?

A. No.

Q. It does not touch the sixth ward of this city, does it?

A. I haven't a map of the wards of the city here now.

Q. The sixth ward is on the other side of the river.

A. No, it doesn't touch the sixth ward.

Q. And it doesn't touch the fifth ward of this city, does it? West Seventh street runs through it; it begins about the Seven Corners and runs out to Fort Snelling, roughly speaking.

A. No.

Q. And it doesn't touch the fourth ward of this city, does it?

A. No.

Q. Does it touch the second ward of the city?

A. The St. Paul & Duluth is on the boundary line of the second ward.

Q. For what district?

A. Well, from Brook street, clear out to the city limits.

Q. Now, the whole bulk of the second ward lies off to the east of that boundary line?

A. Yes.

Q. Dayton's Bluff—

A. Yes.

Q. —and Indian Mounds Park, the fish hatchery, Highwood, and all that?

A. Yes.

Q. Does it touch the eleventh ward?

A. No.

Q. It does, the "old eighth," don't it?

A. Yes, it touches the eighth ward.

Q. Well, the same as the eighth and twelfth now. Does it touch the ninth?

A. Yes, the Northern Pacific is in the ninth ward.

Q. The percentages indicated by Mr. Hurd's letter, with respect to wards are, generally speaking, higher in the wards that the Northern Pacific does not touch than in the wards that it does touch, isn't that true, generally speaking?

Mr. O'BRIEN: If you can't answer that question conveniently categorically, there is no reason why you should not give the percentages in each ward as your answer.

Q. I thought you could tell it by a glance.

A. I would like to figure it out.

Q. Well, let it go.

A. There are some wards in which it is higher and some in which it is less.

Q. The spread is from 44 to what?

A. It runs from 44 to 64; and 44 and some of those very low ratios, are in wards where the Northern Pacific has no property.

Q. Well, the tenth ward is 44; that is the lowest, isn't it?

A. Yes.

Q. The Northern Pacific has property in the tenth ward, hasn't it?

A. Yes.

Q. A large amount of it?

A. Yes.

Q. Its big shops, and has more acreage in the tenth ward than any ward in the city, hasn't it?

A. Yes.

Q. And right out there is the very lowest percentage there is here, isn't it? the tenth ward,—44?

A. About 44, something like that.

Q. Now, let us take the highest percentage. The highest percentage is in the ninth, 64.886, as the statement shows. In the fifth ward the percentage is 63.618?

A. Yes.

Q. The sixth ward is 59.970, and the seventh ward is 56.957. Now, as you understand it, the investigation of the tax commission duplicated the investigation of the special council commission; that is, they took into account the very same transfers, did they not, and many others?

A. Well, I presume they did, yes.

Q. Covered the same period.

A. Covered about the same period.

Q. I understood you to say that the special commission covered a much shorter period than did the tax commission.

A. Yes, I think they did.

Q. But the period covered by the special council commission was included within the longer period covered by the tax commission?

A. Yes; I couldn't say that they took into account all the transfers that the council commission did.

Q. But the aim was to take in all of the bona fide normal transfers?

A. Yes.

Q. That was the aim of both, was it not?

A. Yes.

Q. And so, therefore, if the same transfers appeared normal and bona fide to both, both took in the same?

A. Yes.

Q. Now, did you, from your own separate investigation, make any tabulation of these transfers and data from which you got at a percentage independent of either of these commissions?

A. Yes; I made two separate investigations: One com-

prised the city of St. Paul as a whole, in which I took the ratio that had been established, and took the assessed value of property and raised it to the "true value" according to that basis; and—

Q. Well, I wanted to get at just the breadth of that investigation to get the general percentages, first,—

A. Yes.

Q. —and I will come to the matter of applying them a little later, Mr. Morgan, so that you will have opportunity to tell it just as you want to tell it. Did you subdivide the whole town in your separate investigation?

A. I went over all of the sales of property, irrespective of its location, because what I was seeking was to verify the general ratio.

Q. So you will get my question exactly—the special council committee divided the whole city according to assessment districts?

A. Yes.

Q. The tax commission divided it according to wards?

A. Yes.

Q. Did you divide it in like manner?

A. No.

Q. You didn't divide it at all?

A. I didn't divide it at all, except with respect to the maps that we had of the city of St. Paul, but we considered it as a whole.

Q. You are now coming to your division assessment; I am not speaking of that, I will come to that later. I mean, now, to get at the percentage generally in the city. Now, was the period covered by your inquiries and investigations the same period covered by the tax commission, that is, the transfers in the same period? That is, there would only be a certain quantity of transfers to examine, those that were made, and I want

to find out whether you enlarged the inquiry as to data beyond that.

A. No, I don't think I enlarged it any. I think that these sales probably are, the most of them, the same, or included in the work done by the state tax commission, and, perhaps, by the special council commission; but I wanted to satisfy my own mind, therefore I pursued my own investigation.

Q. Did the tax commission furnish to you any statement of the area of the lands sold by these deeds which they examined and considered normal transfers?

A. They did not.

Q. Have you yourself been able to form an opinion as to such area?

A. No, I have not considered that part of it. It took in all of the sales of the property that were available, and if that represented either a large or a small per cent of the total area of the city, it could not be helped; it was dependent upon the activity in the transfers of property.

Q. Yes, I understood it was not the fault of the inquiry.

A. No.

Q. It was the frailty of the situation, if there was a frailty in it. Now, they reported to you the examination of some ten thousand transfers?

A. Yes.

Q. They did not report, on the paper which you showed me, the aggregate consideration?

A. No, I think not.

Q. Do you know what it was?

A. I do not.

Q. Do you know the percentage which existed between the aggregate assessed values of these sales tracts and the aggregate assessed value of the lands in St. Paul?

A. I do not.

Q. It is manifest that it would be a very small per cent, is it not?

A. Yes; it would be a small percentage of the total value of the property in the city of St. Paul.

Q. That is, the value of these so-called normal sales,—for a period of five years, was it?

A. Four years, I believe.

Q. —four years,—would necessarily be a very small percentage of the assessed value for one year?

A. Yes.

Q. Of all the lands. Now, the figure which you took as the key figure for the whole town, 60 per cent, was practically the figure established by the special council commission, and somewhat higher than the figure established by the tax commission in its larger investigation?

A. Yes.

Q. Why?

A. Well, in the first place, the report of the special council commission was made up before the tax commission had pursued its inquiries, and my own investigations were being made subsequently and about the time the state tax commission was at work. The report of the state tax commission was subsequently made, and it came so close to a verification of the work done by the special council commission, on the general proposition for the city as a whole, that it was probably not desirable to undertake to go into the ultra-refinements of it and make changes which would make no material difference in respect to the estimates.

Q. By the way, what was the date of that letter of Mr. Hurd, the secretary of the commission, to you?

Mr. How: Here it is, July 7, 1908.

Q. Well, this letter of July 7, 1908, was after your work and the valuation of the Northern Pacific, so far as the value of its lands in St. Paul was concerned, was completed?

A. Well, I can't say that exactly. If there had been any substantial difference in the returns, we would have been notified.

Q. I understand you used that for verification rather than for information to make the figures, but the figures had been made before?

A. The figures to which I have referred had been made before, and, as I said, if the result of the investigations made by the tax commission modified, or were of such a nature as to justify a change in, the figures we would have done so; but we didn't consider that that was necessary because the relation was so very close.

Q. Now, after you became satisfied that 60 was the right per cent to indicate relation between assessed and true value in the whole town, then you made these division maps,—is that what you call them?

A. Yes, sectional division.

Q. Sectional division; that is to say, you took the Northern Pacific road, for example, and platted out on each side of it the distances which you have referred to in your direct examination?

A. Yes.

Q. And then you found, as I understand you, recent sales in that territory?

A. Yes.

Q. And then what? I can't go any farther with that item; I get confused at that point. I mean, now, in the normal instance and not the exceptional, where you would correct for some peculiar local consideration.

A. We considered the sale-price of property adjacent to the lines of the Northern Pacific in each of the sections through which it ran, for the purpose of also getting, upon a general basis, how the value of lands in the city adjacent to the Northern Pacific was related to the assessed value; and there may

have been some localities where we could find no transfers of property immediately adjacent to the Northern Pacific. However, we did, on the various maps, secure a sufficient number of actual sales of property to represent $763,769.

Q. Within what period of years?

A. That was within the past five years. We then took the assessed value on that same property and produced a result of $758,983, which is a difference of about $4,500 on three-quarters of a million dollars of property sold.

Q. That I don't quite understand. Now, it is apparent that the relation of assessed value to the sales value in your narrow strips along the right-of-way, on your sectional division maps, might be a different percentage from 60—

A. Yes.

Q. —for the whole town?

A. Yes.

Q. When you got your sales in that limited territory, your problem, of course, was to get the market value of the right-of-way of the railroad near by. Now, what percentage did you use to get at that—the 60, the percentage in the whole town, or the percentage which you established (if you did establish one) in the divisions? Do I make my question clear, Mr. Morgan?

A. Yes, we used the percentage of 60 as a whole. We didn't undertake to take into account the individual inequalities which existed in these respective districts, because when we confined our investigation to a small area, there might perhaps be only one or two sales in that locality, and they might not represent anything like the correct condition.

Q. That is to say, the relation of assessed value to the selling price in these narrow divisions indicated on your sectional division maps, would vary a great deal?

A. Yes.

Q. And you considered that not reliable for the application of this sales-assessment method of getting at the value of lands?

A. Well, individually, yes.

Q. Yes.

A. Individually, that is all.

Q. Well, individually, as to divisions?

A. Individually, as to divisions, we concluded that it would be better to consider the problem in its greatness.

Q. Because of unreliability by reason of the absence of sufficient data to get at the truth?

A. That was primarily the reason. What we were seeking was an average condition and without the refinements; for example, I might state that in some of these cases here property sold for less, considerably, than the assessed value of it, and in other cases it sold for more than the assessed value; but taking it as a whole, it averaged just about the 60 per cent.

Mr. O'BRIEN: You mean in your division?

WITNESS: Yes, in my division.

Q. I was just coming to that. Now, did you establish, along the line of each railroad, the percentage indicating the relation of assessed value to actual value of these tracts sold within your sectional divisions?

A. No.

Q. So you couldn't tell us. I mean taking the road as a whole, now, taking the Northern Pacific in St. Paul, as a whole, and the Milwaukee, etc., you didn't establish such percentage?

A. No.

Q. It would not be practicable, as a matter of fact, would it, to establish such a percentage, to establish a percentage upon which you would want to rely?

A. Well, that would all depend upon the activity that might have existed in respect to the transfers of property.

Q. Well, would it not—

A. There might be some cases where it would be all right, because property had been moving actively, and in other cases it would not; and, for that reason, we concluded that it would

be better to arrive at a general average; and I appreciated, from the beginning, that this would produce inequalities, as applied to any individual section into which the Northern Pacific might be divided in the city of St. Paul; but, where that might be low, on the other hand, a reverse of that condition in other localities would produce a higher value. The result is that those compensate one way and another, and we reach fairly equal ground in considering the problem.

Q. That is, your idea is that, applied to the whole, it will work out what you think to be the truth, but applied to the parts, separately, you would not say that?

A. That is correct.

Q. So that these figures, then, that you have made, with respect to the value of any short piece of terminal lands in the city, you would not feel prepared to defend the value of that particular tract, but taking the whole terminal lands of all the railroads in the city, or of any particular railroad in the city, you believe that the truth is approximated? Is that a fair statement of the idea, Mr. Morgan?

A. Well, I wouldn't want to say that I am not prepared to defend the value in some cases.

Q. Well, I mean generally. I am not now speaking of the exceptional.

A. Generally—? Just read that question, please.

Question read.

A. That is correct.

Q. Now, to illustrate that a little bit: St. Paul is, in some respects, peculiar as to topography, is it not?

A. In some respects, yes.

Q. Take, for example, the land lying between the Mississippi river and the bluffs extending from the Omaha bridge, where its track crosses the river from Mendota; take the land along the shelf at the foot of the bluffs, from there to Pig's Eye lake, for example, you have, on one side, river all the way,

have you not?

A. Yes.

Q. On the other side, you have bluff all the way, except where the union depot yards are, where those creeks come down into the Mississippi river?

A. Yes.

Q. Now, your sectional map-scheme, without this key figure of 60, which you have derived at large in the whole city, would not work, would it?

A. Wouldn't work individually for some sections.

Q. Well, it wouldn't work as a rule on that strip of land and the railroad property?

A. Well, it might work pretty well in respect to that, because, in a good many cases we got a higher value than—

Q. Well, now, on one side, I mean, now, the sections, you didn't apply the sectional percentages there, did you?

A. No.

Q. Maybe I didn't make my question clear. You did apply your general method?

A. Yes.

Q. Your 60, your key per cent?

A. Yes.

Q. Now, I say you could not establish any key per cent by your divisional maps that would work out any satisfactory results on that plan, could you? Do I make myself clear? For example, suppose you hadn't established your 60 per cent in the whole city but took your divisional sectional maps showing lands on both sides of that railroad property owned by various companies from the Omaha bridge clear down below the fish hatchery to Pig's Eye lake, you could not get any basis of comparison that would be correct or of value, could you, in the sections?

A. In the sections, no, I should say not.

Q. Now, that property is, as a matter of fact, is it not,

according to any test of valuation among the very most valuable railway property in Minnesota?

A. I have been considering the question on the ground of the cost of reproduction.

Q. Well, we will take it on that ground.

A. Yes, it is valuable land on the basis of the cost of reproduction.

Q. Yes. Now, do I state it too strongly, Mr. Morgan, when I say that that strip of land, at the foot of those bluffs, down across the swamp lands where the union depot is, and down on to Pig's Eye lake, on the cost of reproduction, eliminating strategy and utility and all those other things which you eliminated, do I state it too strongly when I say that that is among the very most valuable railway properties in this state?

A. I think it is very valuable property, and in making up my estimate on the cost of reproduction I think I have recognized that fact, because I have interpolated the increases in valuation as we approach the river and arrive at a higher value for that particular class of property.

Q. And, in the aggregate, it is a very large tract, is it not?

A. Yes; it is quite a large tract of property.

Q. And, with respect to it the sectional method, would not be reliable at all? And when I say the sectional method I mean—

A. The small division.

Q. —leaving out of consideration your 60 per cent arrived at for the whole city as you have described.

A. Yes. No, I think that it would have to be considered on the broad basis of 60 per cent.

Q. And that was one of the principal reasons, wasn't it, why you went to the trouble of establishing the 60 per cent?

A. Yes.

Q. Now, what we have said with respect to that property is true, in greater or less degree, with respect to other, and a

great deal, of other very valuable railroad property in this city, is it not?

A. Well, I don't recall any particularly.

Q. Well, now, is it not true that, in the district where the heavy traffic of main lines approaching the union depot territory is, down these natural waterways,—what are they, Trout creek and Phalen creek?

A. Yes.

Q. There are two creeks, are there not?

A. Yes.

Q. —that there are some companies whose trackage and terminals are bounded on one side by the yard of one company and on the other side by the yard of another company?

A. Yes.

Q. And there is no contiguous free property in the market by which to apply your sectional scheme of getting at it, is there, unless you consider the whole yard of all the properties one railway tract,—which I suppose you did, did you not?

A. Yes.

Q. I don't now, myself, think of an example of that nature; can you think of an example, down through either of the valleys of these creeks, where one railroad is between the terminal properties of other roads?

A. Yes, I believe the Great Northern line is located between properties owned by the Northern Pacific on either side.

Q. The Northern Pacific is on both sides of the Great Northern?

A. On both sides.

Q. Is that true of the Omaha, coming down there on one track?

A. It don't own coming down through that territory.

Q. I thought they owned one track down through that creek, down to the union depot yard.

A. No, they are renters.

Q. I knew they were as to their main traffic, but I thought there was a single line next to the bluff, the Seventh street side there, that the Omaha company owned, a single track that isn't much used. Are you clear about that?

A. I don't think they do, because it doesn't show up in our records. If it showed up in our records, we would have it.

Q. Well, it is no matter. Now, the method which you have referred to as applied in St. Paul is, in principle, identical with that applied in Minneapolis and Duluth?

A. Yes.

Q. Very much of the railroad property in Minneapolis, on the west side, is along the river front?

A. Not in the same sense that it is along the river front in St. Paul.

Q. Well, doesn't it abut on the river?

A. Some of it does.

Q. Yes, a good deal of it, too.

A. Some of it abuts on the river.

Q. And that is some of the most valuable property there, is it not? It isn't true to such a degree as in St. Paul?

A. No; the topographical environments are entirely different in Minneapolis.

Q. But what we have said with reference to the application of your sectional sales-assessment scheme is true in some degree in Minneapolis?

A. Yes.

Q. And it was for that reason, there, that you felt that the percentage of the relation of the assessed value to the true value, gotten at by a small district, wouldn't be reliable, so you took in the whole city and got the percentage that way?

A. Yes, I took in the whole city, except one particular ward, in which there were no railroads at all; and we thought it would be well to leave that out because there was no railroad company that entered the ward. But that is not the condition

in St. Paul, the wards in St. Paul all have a railroad in.

Q. And the railroads, as a rule, follow the low places, the river front and these creek-beds and creek-basins and the valleys, in St. Paul?

A. Yes, unfortunately they do.

Q. And, generally speaking, there is instant and abrupt change in topography?

A. In some cases, yes.

Q. Well, that is pretty general, in St. Paul, isn't it?

A. Well, it is general along the river, you might say, from the time that you leave the Omaha bridge until you get down to the union depot, and then it breaks, and you don't get the abrupt change until you get down in the vicinity of the fish-hatchery, or just this side of there, but the plateau given over to railways, in the vicinity of the union depot and below there, is quite an extensive one, and it is a natural area that comes in there from the entrance of Phalen creek and Trout Brook creek into the Mississippi river.

Q. And that plateau is crowded to the utmost of its capacity with railroad tracks, is it not?

A. It is pretty well filled with railroad tracks, at the present time.

Q. So that the sales-method would not apply to any land in the plateau, practically?

A. Well, I wouldn't want to say that, because I have used the sales-method.

Q. Well, I mean the sectional sales-method.

A. Oh, some little individual section, no. No, it has got to be considered on broader grounds.

Q. That is, you couldn't get at any percentage that was worth anything down there, without taking into account the lands on the hills and in the residence districts and business places, and all that, isn't that true?

A. Yes.

Recess until 2 P. M.

AFTERNOON SESSION.

WITNESS: Mr. Butler, you asked me a question, before dinner, in regard to the difference in the ratios in the different wards of the city as returned by the tax commission. I had not worked that out at the time, but in the wards of the city of St. Paul in which the Northern Pacific owns property, and in the wards in the city in which the Northern Pacific does not own property, there is only a difference of about two per cent in the average ratios of those wards. There may also have been some misunderstanding in respect to the way that I arrived at this ratio of sixty per cent for St. Paul, and that misunderstanding may come from the fact that the special council commission and the tax commission established practically sixty per cent for the city as a whole; but my own investigation into this subject was confined to only that part of the city in which the railroads owned property. In other words, take the map on the wall, there are shown there sections into which the property belonging to the Omaha and the Milwaukee was considered; now, in each of those sections there are sales of property; all of the sales shown here, all of the sales shown on every map in the city of St. Paul, were taken into account which is property that is adjacent to the lines of the railway companies; and in that way I took the assessed value on the same property and arrived at the sixty per cent. Now, that covered all of the railroads in the city for property that was immediately adjacent to them, and for the Northern Pacific property, in itself, I considered, also, and found that the ratio of sixty per cent applied there, the same as it did for the roads in the city as a whole.

Q. What was it on the Milwaukee?

A. I haven't that worked out for the Milwaukee, individually, at the present time.

Q. That has never been worked out?

A. No.

Q. Have you it worked out for any other road than the Northern Pacific?

A. I have not, at the present time. However, in connection with this peculiarity of property which was being discussed before lunch, I would like to explain, from this map, some of the conditions. For example, in Section 1 of map No. 2, is property that is owned by the Omaha Company; it runs right under the bluff. Now, in measuring the reproduction cost of that property, I did not take into account that that property was down below the bluff and measure it exclusively by the value of property adjacent to that, but I went up on top of the bluff, into the established business section of the city, and arrived at my value by taking those values along Second street, as well as the values that could be obtained along the river. In that case, the Chicago, St. Paul, Minneapolis & Omaha returned a value of $44,280 an acre; according to my investigations I returned a value of $51,033 on the same property. Take Section 4, where the Omaha and the Milwaukee own joint property, and it also lies along the bluff, I went back in that section to Third street, which included improved property. All of this joint property lies below the bluff. They returned a value on that property of $19,165 per acre; the value that I returned from my own investigations is $40,581 per acre.

Q. Now, let us speak of Section 1 of that map, while you are there. The section on both sides—Does not the Milwaukee own some tracks in there?

A. The Milwaukee owns some tracks in there.

Q. Now, there is a bench there, just above the water, and at the foot of a sharp, abrupt bluff, extending, as it appears on the map, from St. Peter street to Jackson—indeed it does extend, as a matter of fact, to Sibley, does it not?

A. About Sibley, yes.

Q. But your section does not include it to Sibley?

A. That particular section does not include it as far as Sibley.

Q. All of the land that is at the foot of that bluff, on the bench above the river, is owned by railroad companies, isn't it?

A. Yes, it is.

Q. And on the southerly side it is the river?

A. It is the river.

Q. And on the northerly side it is an abrupt bluff, coming up to what was formerly known as Bench street, now Second street?

A. Yes.

Mr. HOW: And that bluff is how many feet high?

WITNESS: Probably fifty feet high.

Q. Ranging from thirty to sixty feet, something like that?

A. Yes.

Q. So, so far as your section is concerned, you could not apply any sales-method to the south, or any sales-method to the land at the foot of the bluff?

A. Not in that particular instance. But the value of the property that we did apply was considerably higher than would be the value of other property along the bottom, as might be illustrated farther out, where there is land lying in the bottom.

Q. How many instances did you have there in Section 1 of sales?

A. Of actual sales in Section 1 we had none.

Q. Had no instances at all. What is the aggregate value that you fixed on the railroad property in Section 1 for both companies?

A. It is $142,894.75.

Q. Where did you get the base to which to apply your sixty per cent for the property in Section 1?

A. That, as I have already explained, is the average base for the entire city.

Q. No, the 60 is. Now, I am assuming the 60, but you

would have to divide 60 per cent into some market value in order to get the true?

A. That would be so, and from the investigations which were made along these different sections, we found that it averaged 60 per cent. Now, as I have previously explained, there were some sections where we had no sales. That was due to inactivity in real estate, but we took the average of all of the sales adjacent to these lines, which was 60 per cent, and you can see, from this illustration here, that we raised the values turned in by the Railway Company, and for the Omaha property, and in its entirety in the city of St. Paul the sales-method which we have adopted comes within eleven per cent of the figures that they have turned in in their appraisal to the Commission.

Q. Well, now, getting back, how did you get the price per square foot, or per square acre, on the railroad lands in Section 1? Just work that example for us. You have no sales in the section?

A. We have here the assessed value of all of this property.

Q. You took the assessed value of the property on Bench street?

A. On Bench street, took the assessed value.

Q. On one side of Bench street, or both sides?

A. Within the yellow line on Bench street, extending from Second street back to the bluff, or to the right-of-way of the railway company; and that, according to the investigations, represented about 60 per cent of the sales-price of the property, and we therefore raised that to the true value of that property; then using the multiple which we had established as representing the relation between what the normal value of land is and what the railway company actually pays for it, in that way we arrived at the railroad value of this property.

Q. So then you went to the assessor's office and found the aggregate assessment of the land on the south side of Bench

street which is indicated in Section 1, and you added that all together, then you divided that by 60 per cent, and that gave you the market value, and then you added to that 75 per cent, or multiplied it by 1¾; is that the way you got at it?

A. That is the way.

Q. Now, Bench street, of course, is on top of the bluff, is it not?

A. It is, yes.

Q. Now, you have told us the whole program, as far as the valuation of railroad lands in Section 1 is concerned, have you, Mr. Morgan?

A. Yes.

Q. Does Section 4 also include a part of the bluff?

A. Yes, it does.

Q. Do the railroad tracks indicated on Section 4 run along at the foot of the bluff?

A. They do.

Q. And that takes back of the West Publishing Company building and Eagle street, and so on, up to Chestnut street where the bluff disappears?

A. That is true.

Q. So that the lands contiguous to the railroad lands indicated on Section 4 (that is contiguous on the northerly side, I guess; that is, on the bluff,) are in fact, an abrupt bluff?

A. Yes.

Q. And the first street at the top is West Third street, is it, part of the way through?

A. Spring street and West Third street, Washington and Hill street.

Q. Spring street has no existence in fact, has it?

A. No; it is Hill street and Third street.

Q. And the land between the railroad track and the river is unoccupied, for the most part, in Section 4?

A. No, I think not; there are a good many improvements

on that property, as shown from the assessment opposite each, which shows the assessment on the real estate and on the improvements separately.

Q. What is the aggregate valuation that you placed on the railroad lands in Section 4, can you give that readily?

A. Yes.

Q. I don't want to ask you to compute without regard to the ownership of companies.

A. About $230,000.

Q. What was the aggregate amount of sales that you took into account in that section, can you tell readily, within the last five years?

A. There appears to be seven or eight up there on the map.

Q. Did you get the percentage of assessed valuation on the lands sold in that section?

A. They were not treated separately, they were treated as a whole.

Q. Yes, I understand, but I wanted to compare the percentage indicated by the examination of Section 4 with the 60 per cent that you used for the whole city; that was the purpose of my inquiry.

A. Yes, I understand.

Q. Can you tell whether that comes near, or whether it would be near, the same percentage in that section or not?

A. Well, I would have to work that out. I can work that out for you and have it for the examination in the morning.

Q. That will do. So you would not be able to answer that question with respect to the other sections?

A. No, because we considered it as a whole. As I said, we considered that proposition on broader grounds.

Mr. O'BRIEN: I think he has that worked out for the Northern Pacific, Mr. Butler; you know this Omaha property you are speaking of now.

Mr. BUTLER: Well, that map he started to illustrate with

and I thought it would illustrate as well as any some of the points.

WITNESS: I wanted to bring up that Omaha map because on that property I had misunderstood one of your questions this morning, before lunch.

Q. That is all right, I think; I was going to ask for this map, anyway, or one like it. Now, referring again to Section 1, which illustrates a rather peculiar topographical condition, as far as your estimate of value is concerned, you did not take into account at all, did you, the level of the land occupied by railroads as compared with the level where you applied your assessment basis on Bench street? that is, you did not make the value of the railroad land any higher or any lower by reason of the fact that it was there at the foot of the bluff, between the bluff and the river and the only land available at that place for railroad uses?

A. No, I had to proceed upon the basis that the railroad was not there.

Q. Yes, but what I am trying to get at is this, the topography there was not taken into account as an element affecting value?

A. It could not be, because there were no assessments on the property lying under the bluff and therefore we had to take the property that was on top of the bluff.

Q. Yes, that was one of the situations where your rule could not, of course, have any application whatever to the conditions of topography?

A. That rule, so far as topography is concerned, could not be taken into account, on the assessment basis, anywhere. It is not possible to do that, because we find in every section a different topographical condition, and within those sections we endeavored, so far as possible, to get the average on either side. Now, I think, as I stated in my direct examination, that there were some cases where we were unable to get data on all

sides and where we were estopped by the facts, it was impossible to apply them. It, however, gave a better index of value to that property than though we had measured it from the river side on some basis that I don't know what it might be.

Q. Well, then, conditions of adaptability depending upon topography were not taken into account in that Section 1, nor in any of the railroad sections?

A. No, as I have already stated, the question of peculiar adaptabilty is not taken into account in any of this work; it is based upon reproduction cost and not upon the particular utility of certain lands.

Q. In the location of a railroad, whether in the country or the city, it is the practice of the railroad companies, through their engineer to locate their line along the most feasible route, find the line most adaptable for railroad purposes, is it not?

A. That would have to be qualified. In the early construction of railways, that condition prevailed to a very large extent. It has largely to do with the cost of constructing a road, or rather with the economy of constructing a road; but at the present time, when railroads are seeking to introduce economies in the operation of their lines, the topographical conditions that may prevail are oftentimes entirely ignored, and must be ignored, because of the necessity of establishing a line that will prove its worth ultimately and without regard to the immediate outlay of money; so I think, at the present time, the construction of railways is not so much with reference to winding in and out to find the easiest and cheapest method by which it can be constructed, but it is to get a line through that will enable that property to operate economically and ultimately produce the best results to those who have invested in it.

Q. That is, since the beginning of railroads, policies with respect to construction have changed. They at first, when traffic was light and population very sparse, built crooked lines,

with steep grades and light bridges and light rails and light equipment?

A. Yes.

Q. Giving, apparently, great consideration to the outlay in dollars in construction?

A. Yes.

Q. But since development has taken place in this state, and especially about the cities, where traffic is great, it is the problem to find that land, wherever it may be, that can be, by appropriate use of money, put into a good, first-class railroad, with easy curves and grades and heavy rails and heavy bridges?

A. That is the idea.

Q. And, of course, the land that it is possible to do that thing with, lends itself more readily to railroad development than bluffs that would require millions to level, I suppose. I suppose that still is taken into account in some degree by railroad engineers?

A. Oh, yes, of course we have got to be governed by reason in the construction of lines.

Q. But, to get back to the general statement, the utility of the land or its adaptability, or its strategic value, in the problem of railroad construction and development, was not taken into account at all by you in these figures?

A. No, it has not been; and as I stated, in my direct examination, that that might be a proper thing to consider in connection with this problem as a whole.

Q. I was just trying to get what you put in, that is all.

A. Yes, but so far as I was concerned, I did not undertake, on the question of the cost of reproduction, to consider those elements.

Q. Now, in your investigation to get at this 60 per cent, you observed, did you not, in the work of the special committee appointed by the common council, as compared with the work of the tax commission, and perhaps your own investiga-

tions, that, generally speaking, the smaller the district was, in which the sales prices were compared with the assessment values, the greater the spread of percentage of relation between assessed value and sales value?

A. I don't think that I recall that part of my report.

Q. Well, you recall, do you not, that in the special council committee's report, they divided according to assessment districts and then also tabulated with respect to street frontage?

A. Yes.

Q. And that in the tax commission's report they divided real estate to the wards?

A. Yes.

Q. You recall, do you not, that on the basis of subdividing the problem according to streets, the spread of percentage indicating the relation between assessed value and true value was from 34 per cent (being the lowest) to 139, being the highest?

A. Something like that.

Q. Those are the figures, I think. But when it came to wards, the spread was 44 to 64?

A. About that.

Q. Now, did you note whether or not your experience would justify the same generalization, that the smaller the section and the fewer the instances (within limits, of course,) of comparison of sales method with assessment values, the greater the spread and the more unreliable the conclusion?

A. No, the report of the special tax commission did not particularly interest me in respect to those details. I was pursuing my own investigations, and, along the line of the Northern Pacific, in the city of St. Paul, I considered about 125 acres of property that had been transferred to the Northern Pacific Company. Now, that represents about 22 or 23 per cent of the total acreage owned by the Northern Pacific Company in the city of St. Paul.

Q. I don't think I made myself clear, Mr. Morgan. As I understand it, you say that this 60 per cent is based on the examination of the whole city and that the whole city was taken because it was necessary to approach the question in a broad way and not apply the rule to small divisions, as I have understood you. Now, I want to find out whether or not your experience justified the necessity of taking in the whole district; that is to say, whether or not it turned out in your investigation that if you took a small sectional division you would find a great spread in the percentage of assessed value to the market value, as a rule. Perhaps I can call for it this way, if you have it: Take it section by section, what was the spread on the Northern Pacific, the highest and the lowest? I understand you have that at hand.

A. Well, I haven't worked out the percentages, but I have the total, which I can probably refer to here.

Q. Well, if you could give percentages, I am thinking in that line now; and, if not, perhaps we had better defer it until we can give you a chance to get at them. Now, do you understand just what I mean, Mr. Morgan? Take it section by section on the Northern Pacific, these section that you have subdivided—

A. Exactly.

Q. —I want to get the spread of percentages. You understand me. Now, make a note of that.

A. Over the whole line?

Q. In the city. I want to get at what the spread is.

A. That is, the spread along property that I have considered adjacent to the Northern Pacific and adjacent to all of the lines?

Q. Well, the Northern Pacific.

A. Just the Northern Pacific.

Q. I would like to have it as to all, if it is not asking too much, labor, and I feared it was.

A. Well, there is some labor about it, but it can be worked out very shortly, and we can have it ready by tomorrow.

Q. And section by section, you understand?

A. Yes.

Q. What I am trying to get at is, how would it have been if you had not taken the 60 at all but confined yourself to the limits.

A. Yes.

Q. In Minneapolis, you used a lower percentage than in St. Paul?

A. Yes.

Q. And at Duluth what was the percentage?

A. The percentage there was 43.3, in the city of Duluth.

Q. And arrived at in the same way?

A. Yes.

Q. Now, do you know whether or not more instances ratably were taken into account in Minneapolis and Duluth than in St. Paul in getting at your general key percentage?

A. I couldn't say as to that.

Q. Was it about the same, or can you tell?

A. Well, I can't tell now.

Q. In St. Paul, according to this report of the special council committee, the true value of all the property considered, as shown in this table, is indicated at $123,826,564; that is true value of all the property in town; and the assessed valuation of the property considered was about three per cent of that, $3,108,794. You don't know how that would compare with the figures in Minneapolis and Duluth, corresponding figures?

A. No, I do not. Our percentage, however, in Minneapolis and Duluth, would be very much greater than that. That statement you have read from is purely and simply what the council committee has considered.

Q. That is what I said; that is all we have to go by.

A. And of course the percentage taken into account in St.

Paul would be very greatly increased, taking into consideration what the state tax commission did.

Q. Yes, I understand, but we haven't that here, as I understand it.

A. No.

Q. They didn't furnish you that data?

A. They didn't furnish me that data.

Q. In getting at your reproduction-cost new of the whole property, I think you said, in substance, in your direct examination that you did not take into account the economic value of favorable grades and good curvature, or anything of that sort.

A. I did not.

Q. Or the efficiency of the property, road-bed, fixed structures and rolling-stock, as an instrumentality or instrumentalities for the conduct of transportation?

A. My estimate was purely upon the reproduction cost.

Q. That is, the inventory of the pieces or the members of the organized plant and a reproduction-new cost fixed for each member, each item?

A. Correct.

Q. So that, so far as your reproduction cost is concerned, it would be just as high, considering the same units, for a poor road, that is, a road with steep grades and objectionable curvature, as it would be for a road in a straight line and no grades?

A. Yes; the strategy of location and all of those items which a superior road possesses over one differently constructed has not been taken into account. It has been purely and simply a question of getting at the cost of reproducing the property irrespective of the facilities it may possess for advnatageously or disadvantageously doing its business.

Mr. DURMENT: I supposed that question had reference only to the realty and right-of-way, Mr. Butler, that you asked just now.

Mr. BUTLER: I didn't intend to so limit it. Maybe it ought to be, but I didn't think of limiting it.

Mr. DURMENT: I think the witness ought to understand it clearly because it would evidently make a very great difference in the cost of doing some work.

Q. Now, in getting at what is strictly reproduction cost of the lands, especially in the cities, is not adaptability for railroad uses, at least sometimes a factor touching value and reproduction cost, strictly so-called?

A. I should not consider it so. I think if that element is to be considered it must be considered entirely separate.

Q. Well, now, I recall a case, Mr. Morgan, (I don't know what road it is on) of a railroad company condemning a little island in the Mississippi river at Minneapolis on which to rest a pier for a bridge, and it appeared in the evidence as the court has reported it and as I recall it, if I recall it aright, taken before the jury, that that land was not usable for anything and therefore not worth anything, but it was contended by the owner that because it was usable for rest for a pier for a railroad bridge, it had that value. Now, bearing in mind the thought there is in that case, does not adaptability for railroad uses enhance the value, the market value, the selling value, of every piece of land that is liable to be called upon for that use? Do not get the point of my question?

A. Yes, I think I do. I suppose that would be true—that it would be true—

Q. Now, do you know—

A. Now, wait a minute.

Q. I didn't intend to interrupt you, and if I do, just tell me to wait until you get through and I will do it.

A. —but in considering reproduction cost, I do not think that the adaptability is a part of reproduction cost; for that reason I have not included it. There might be some instances where that would exist in the cities, but it would be a very

difficult matter to arrive at a value on that basis, and I have not attempted to do so. Now, if these railroads were not in existence, the lands might not be worth a great deal, but by reason of their existence, and their existence alone, the value of contiguous lands has been established, and, therefore, when we take into account the value which attaches to contiguous lands we are considering, in one sense, the utility of those lands which has been produced from the existence of the railway itself.

Q. Well, now, to illustrate: I understood, Mr. Morgan, that you did not take into account the element of adaptability. Now, this work proceeded upon the conception that, if applied to this—map No. 2, is it?

A. Yes, map No. 2.

Q. —Section 1 of map No. 2, your investigation proceeded upon the conception that the railroad tracks on that section would be removed?

A. Yes.

Q. And, further, upon the conception that this territory up on top of the bluff was the same as it is, and the river front was the same as it is, independent of the railway improvement by grading and the like; am I right about that?

A. That is right.

Q. Now, to call more direct and specific attention to what I was trying to ask you in the last question, I want to ask you if you do not think, that if the railroads did not own the lands owned in that section by them and it was held by private owners, it would be very highly adaptable to railroad uses to find a way down to the union depot and out to Minneapolis, just for the very use that it is now employed in?

A. Yes, it might be.

Q. Well, it would be; there isn't a doubt about that, is there?

A. No, I don't think so.

Q. Now, if a private owner owned that land, wouldn't that adaptability itself be a factor in the market value of that land, in your opinion?

A. Yes.

Q. A very important one, wouldn't it?

A. Yes.

Q. And if a railroad company sought to condemn that against you or me, if we happened to be fortunate enough to own it, it is your understanding, is it not, that the fact that it could be put to this, that and the other use, the railroad uses as well as other uses, or dockage and warehouses perhaps, would be taken into account in getting at the value of the land taken?

A. Yes.

Q. So that, in such a case, it follows, does it not, that adaptability to railroad uses is an important element in valuation for the reproduction-new cost upon the hypotheses that you have directed the railroad companies to proceed upon and which you yourself followed?

A. Here is property lying—

Q. You have in mind my question, have you?

A. Yes, I am answering your question.

Q. Very well.

A. Here is property lying in here east of the union depot property, on map No. 1, which the Northern Pacific Company has recently acquired a large part of. Now, that property is perhaps peculiarly adapted to railway purposes because it lies upon this low plateau. Now, the Northern Pacific Company has paid for that much more than its market value from the assessments; it paid over two times—

Q. That is map No. 1, section 3?

A. Yes. It paid over two times what that property would be worth normally. Now, I can't take the Northern Pacific railroad as a criterion upon which to establish values in these

cities. Some railway companies are able to purchase property much more advantageously than others; that depends upon the individuality of the man, perhaps, who is making the transaction; it depends upon a variety of causes. Therefore, in considering this question of the railroad value of these lands, we have had some cases come up where the question of adaptability, as illustrated there, comes in; but that example, in itself, cannot be taken as a criterion to cover all of the railroads of this city. In making up the multiple that I have used to arrive at the railroad value of property, I have included all of that property which the Northern Pacific Company paid an excessive price for, so that the multiple that we have, takes into account, I think, the question of adaptabilty as I understand you to be explaining.

Mr. BUTLER: Just read the last question.

The last question was read.

Q. You haven't quite answered that, as I catch your answer. I was referring you to that map, you know, that Bench street matter there.

Last question read again—"That is map No. 1, Section 3?"

A. It is. As illustrated, we have considered it in that sense, by taking into account property that was peculiarly adapted, as well as property that was normal and did not possess those special conditions.

Q. Such property as I referred to on Section 1 of map 2 (the map you have just turned up there) for example, if the Milwaukee Railway Company's property and ownership was conceived to be eliminated from that section, that section would have an enhanced value by reason of its strategic position, would it not?

A. For railroad purposes?

Q. Yes.

A. Yes, I think it would.

Q. Now, take, for example, the situation which you referred

to in your examination, this morning, where the Great Northern road down one of the creeks—which is it—Trout creek or Phalen creek?

A. I think it is down Phalen creek.

Q. Down Phalen creek?

A. Or Trout Brook creek.

Q. Trout Brook creek, whichever one it is,—lies between two pieces of land owned and used by the Northern Pacific for railroad purposes; now, if it be conceived that the ownership and railroad property of the Great Northern be eliminated from that tract, that tract would have an enhanced value by reason of its adaptability for railroad uses; indeed, that would be its principal value, would it not, for railway purposes, for the very uses that it is now devoted to by the Great Northern Company?

A. Yes.

Q. And it would also have an important element of value, by reason of the strategy of the situation, the strategic advantage of occupancy of that land, would it not?

A. Yes,—which I didn't consider to be a part of reproduction cost in that sense.

Q. No, I understand you that you didn't, but I am trying, and the purpose of this cross-examination is, to get at just what was considered and what was not. Your values, as I understand you, were fixed without reference to present use—I am now referring to lands—

A. Yes.

Q. —"its indispensability for the purposes of transportation or to the strategy of location, which, when presupposed must tend to confuse the judgment," as you put it in your report, "as between reproduction cost as land and what its value may be regarded because it is utilized for a particular purpose?"

A. That is correct.

Q. And you hold, according to your report, do you not, that cost of reproduction and value as a utility have no necessary or logical relation?

A. That is correct.

Q. And "the fact that the terminal lands or the properties, in part or in whole, are not actually to be reproduced, or the fact that it might not be possible at all to reproduce them or their equivalents, probably renders their possession invaluable not only to the owners but to the communities dependent upon them for the facilities afforded for industrial activity and commercial supremacy," that is from your report.

A. Yes.

Q. Now, the instances to which reference has been made in your cross-examination illustrate, do they not, the truth of the statement that adaptability, utility, strategic advantage, are very important elements of value?

A. Yes; but it is not clear that these elements which can be very conveniently made the basis for extremely high figures of value should either merit support or find justification in an estimate purporting to represent reproduction cost.

Q. Well, now, take Trout Brook creek, occupied by at least two railroads—perhaps more come down there, do they?

A. Yes; the old St. Paul & Duluth and the Northern Pacific proper and the Great Northern.

Q. And the Great Northern.

A. Those are the three lines that own the right-of-way through that territory.

Q. Now, if we eliminate any one, in the problem of getting at reproduction cost of the one eliminated, will not the element of adaptability, utility, strategy and these things, affect, by way of enhancement, the cost of reproducing that land, for railroad purposes?

A. I don't understand what you mean by saying eliminating one,—and leaving the other two there?

Q. Certainly. That is what you told Mr. Horn to do, as I understand it, in your letter to him: to conceive that the Northern Pacific road and its property, its ownership, were eliminated, and proceed upon the theory that the rest of the lands were occupied as they are occupied, whether in town or out of town.

A. I told Mr. Gruber, at the same date, in respect to the Great Northern.

Q. Well, that is your circular letter?

A. Yes.

Q. The letter that you read in the record here to Mr. Horn is the one I refer to, and I assume that you gave the same instructions to everybody?

A. So that would eliminate all of those roads.

Q. Now, Mr. Morgan, in valuing the Northern Pacific, did you proceed upon the conception that the other roads were also eliminated, or did you proceed upon the conception that its property and ownership was eliminated?

A. I proceeded upon the theory that we would reproduce all of that railroad property through there—

Q. At once?

A. At once.

Q. And your reproduction-cost new, then, allowed to each company, added up, would make the equivalent of the reproduction-cost new if one company was to undertake to get it all, is that the idea?

A. If I recall right, the appraisers by the railway companies assigned the same value to all of this property (by the Great Northern and by the Northern Pacific) and, if I also recall, my own figures for that particular property through there, is higher than that turned in by the appraisers.

Q. Well, I didn't have in mind the figures of either, or intend to criticise the value; what I am trying to get at are the elements taken into account. Now, when you come to one of

these passageways occupied by several roads, one of these natural passageways for railways into the city, what was your conception when you were valuing each? That its property, alone, was to be eliminated and the rest occupied as it is in fact occupied, or was it your conception that all the railroads were eliminated from such passageways, and then you were getting at the cost of reproduction of all of the roads that are there on the theory that one road was acquiring it?

A. Yes.

Q. Without strife or contest with the others?

A. That is, the idea was to consider these railroads not in existence; and if one were eliminated immediately contiguous to another, it meant that they were both eliminated and we were to consider that property for both lines at the same time. And I think that is what has been done by the railway companies, they have shown a value for each of the properties the same. It would be very difficult to determine which would be built first, and how much one railroad would hold up another for privileges. Now, it all depends upon circumstances how much a railroad is held up. Sometimes they have to pay excessively for privileges; but they have recourse in other directions, by which they can obtain running rights over property that may be occupied or owned by another. And where property has once been divided by a railway, the cost of dividing the property again is not so great as it is where property has been divided in the first place. I would like to illustrate that. Between Glenville and Albert Lea, (showing map of state) on the Chicago, Rock Island & Pacific, the Illinois Central bought a right-of-way directly parallel to the right-of-way of the Rock Island adjoining. The actual sales of property there, related to the transfers, show that they only paid 1.7 times the market value for that right-of-way, whereas, for the right-of-way that they purchased as an independent line, they paid from two to three times as much. So that I could not take that into ac-

count in the country where one railroad had been constructed in advance of another and its right-of-way parallelled. For example, the Northern Pacific and the Great Northern run parallel and occupy a joint right-of-way, between Northtown Junction and St. Cloud; now, if I were to estimate the cost of reproducing those roads, separately, which should I say paid 3, and which should I say paid less than 3? I considered that property as a whole, both railroads, and allowed them both 3 as the multiple to apply. Now, there are many instances where railroads in this state parallel one another, and where, if we could take into account whether one road was constructed before another, on the question of reproduction cost, it might lead to some modification; but we don't do that in the country, and therefre we didn't attempt to do it in the cities.

Q. Well, as I understand it, then, as to the trackage coming in to the union depot, both up the river and down the river, and down Trout creek and down Phalen creek, your assumption was that all of the railroads in these passageways were eliminated and the reproduction cost that you established is the cost of getting it all at once by the same company?

A. That is right.

Q. I just wanted to get at how you did it. Now, I was about to ask you if you did the same thing in the country where the railroads were upon the same right-of-way; I had in mind this Northtown Junction to St. Cloud.

A. Yes.

Q. Your conception was there that both the old Manitoba (now the Great Northern) and the Northern Pacific were eliminated from that right-of-way?

A. Yes.

Q. And your problem was what it would cost in acquire that right-of-way by one company for the construction of a railroad—

A. Yes.

Q. —assuming that both companies were eliminated from the property?

A. That is right.

Q. But now, that, of course, wasn't true where they were not on the same right-of-way?

A. No.

Q. Where there was ownership in severalty, out in the country, you then assumed the absence only of one railroad property and proceeded to establish the reproduction cost new of its lands separately?

A. That is right.

Q. But is it not true that the ownership down Trout Brook and Phalen creek, and up the river to the depot, is in severalty?

A. Yes.

Q. The reason that you proceeded upon the conception that in these passageways all of the trackage and railway development were eliminated is because, notwithstanding ownership in severalty, the strips were not wide and the whole tract was used by various railroad companies for railway purposes?

A. Yes.

Q. But do you not think, Mr. Morgan, that if you proceeded on the other conception,—for example, from the Omaha bridge (which I think is a joint bridge over the Mississippi river with the Milwaukee road) to the union depot, suppose you assume the elimination of the Omaha property alone and the existence of the Milwaukee property down there, do you not think that the acquiring or reproduction of the Omaha lands down that territory would be made very expensive by reason of the strategy of the situation? In other words, would there not be the very keenest possible rivalry for the occupancy of that territory by railroads, either in or desiring to come in, in all human probability?

A. Yes, it would be a very difficult thing to analyze along those lines.

Q. And your figures do not take into account these considerations at all?

A. I have not attempted to get into a line of thought as to which I was wholly unable to satisfy my mind in respect to.

Q. When you came to the rolling-stock, as I understood you, you got at the new price of different items of rolling-stock owned by the Northern Pacific Company?

A. Yes.

Q. And allowed to Minnesota a proportion of the whole amount of rolling-stock owned by the Company?

A. Yes.

Q. Now, see if I understand that aright: That part of the rolling-stock which was used wholly within Minnesota you allowed to Minnesota its value?

A. Yes.

Q. That part of the rolling-stock which never came to Minnesota at all, you didn't take into account at all; is that right? I was not clear, in your direct, whether that was your purpose or not.

A. That is true.

Q. And, with respect to that part of the rolling-stock which is used in part in Minnesota and in part outside of Minnesota, you apportioned on a mileage basis?

A. Yes.

Q. That is, engines on engine-mileage basis, passenger cars, on passenger-mileage basis, freight cars on freight-mileage basis, and miscellaneous equipment on the mileage basis of that equipment; is that right?

A. Yes.

Q. And for what year did you take the mileage?

A. June 30, 1907.

Q. The year ending that date?

A. Yes, the fiscal year ending June 30, 1907.

Q. It is a fact, is it not, that the allowance to Minnesota

or allotment or apportionment to Minnesota of rolling-stock would vary from year to year as the mileage of engines and cars vary?

A. Yes, that would vary from year to year, slightly.

Q. When the local business was heavy in Minnesota, its proportion would be heavier, that is, from year to year, it would change the valuation very considerably, would it not?

A. Well, I couldn't say that it would change it considerably; there might be some slight differences in the percentages.

Q. Have you in mind the fluctuation of the percentages from year to year on these roads?

A. No, I have not.

Q. It is quite marked, isn't it?

A. In some cases it is; but under normal conditions it ought not to fluctuate a great deal.

Q. Now, in getting at the present value of your rolling-stock, you took the reproduction-new cost and subtracted something from it for wear and tear, by reason of age, and the like?

A. Yes.

Q. Then your valuation under the caption "Present Value" is not intended to indicate the value of such things as rolling-stock, at least, on the basis of utility as an instrument for the transportation of commerce?

A. No.

Q. As a matter of fact, is it not generally true that, while rolling-stock is usable at all, its efficiency as an operating tool is equal to a new piece of rolling-stock?

A. Yes, it is. Of course, it is gradually wearing out.

Q. The time comes when they don't have one, but as long as they have a locomotive or a car that is usable, it will do the equivalent of work of a new locomotive or car, practically?

A. Well, no, it won't do all of the work of a new locomotive or new car; it will do substantially.

Q. Well, I said practically. I don't mean to get into the

fine points about that, but practically so. Efficiency, as an operating tool, doesn't substantially impair, assuming repair and maintenance be proper, during the life of the instrumentality?

A. No.

Q. You did not allow, in your reproduction-cost new, anything for renewal fund for such things, did you, or for anything?

A. No.

Q. And it is not true, Mr. Morgan, that it has been the custom of railway companies generally, and is now required by rules of the Interstate Commerce Commission, so far as interstate carriers are concerned, (which rules have the force of law) that the railway companies shall charge off a certain amount annually to cover depreciation, wear and tear, the very elements which you take into account in establishing the difference between your reproduction-new cost and your present value?

A. That is the ruling of the Interstate Commerce Commission.

Q. And, so far as you know, that is being followed by railroad companies, interstate carriers generally, is it not?

A. I understand that it is, yes.

Q. And indeed, before that, either in one way or another, more or less regularly, dependent, perhaps, upon income, it has ever been the custom, has it not, for railroad companies to charge off for depreciation and provide for a renewal fund and not buy new cars out of capital account?

A. Some roads do that, and other roads buy equipment out of capital account. There is a difference in respect to the—

Q. I mean the renewal of equipment. I don't mean new equipment, I mean the renewal of equipment.

A. Well, that is done out of the maintenance.

Q. That is, out of their renewal fund?

A. Renewal fund.

Q. Provided for. So that, as a matter of fact, if the amount, under the mandate of the Interstate Commerce Commission, charged off for depreciation, be the right amount, there will accumulate a renewal fund which is the equivalent of this difference in reproduction cost and the present value which you have fixed here?

A. I should not say that; I can't say as to that.

Q. Well, let me see if we understand. If you and I understand that this charge-off for depreciation is to provide a renewal fund, we ought to be able to get at it. Assume, with respect now, to locomotives, that there be charged off by the railroad companies, under this order of Mr. Adams, of the Interstate Commerce Commission, five per cent annually for depreciation and to provide a renewal fund, and that a locomotive lasts for twenty years and is worn out and junked, (we will not confuse it by taking into account the value of the junk) this renewal fund then will be sufficient to buy a locomotive like that one and to reproduce it new, will it not?

A. In time, yes.

Q. Yes, if it is the right amount that is charged off?

A. Yes.

Q. That was the purpose of my question.

A. Yes.

Q. So that, assuming that the amount of depreciation charged off, under the direction of this Interstate Commerce Commission, be the right amount, that is, rightly measures the depreciation or present worth of the depreciation, there will, at all times, be sufficient then in this renewal fund to cover the difference between reproduction-cost new and present value?

A. There should be.

Q. Yes, if it is right there will be, and it should be right. Isn't that about the way to say it, if it is the right amount?

A. Yes, as I say, if it is the right amount.

Mr. DURMENT: That assumes, of course, that they set aside each year the amount they charge off into a fund?

Mr. BUTLER: Certainly.

Q. And that fund is, under the practice of the railroad companies, pursuant to this direction of the Interstate Commerce Commission, taken out of the income from operation of the railroads?

A. Yes.

Q. Deducted from earnings?

A. Yes.

Q. So that, to keep up the same quantum of equipment by way of renewal, if the right amount be provided as ordered, there will be no addition to capital?

A. That is so.

Q. So, to avoid the addition to capital, the providing of such a fund is an essential, is it not?

A. Yes, under the ruling of the Interstate Commerce Commission.

Q. Yes, and under sound practice of railroads, even before that?

A. It would seem so, yes.

Q. So that this renewal fund thus becomes just as much an essential of the operating plant and tools of the carrier as does the equipment impaired by time, wear and tear, and the other things which would so impair it?

A. Yes.

Q. And you have made no allowance in your reproduction cost for that, unless it be taken to be the difference between your present value and the reproduction-cost new?

A. Yes, I have.

Q. How much did you allow the Northern Pacific for renewal fund?

A. I have not figured it in that way. In taking into account

the cost of doing the ballasting on the Northern Pacific line, taking into account the track-laying and surfacing, in those construction items I have allowed depreciation upon the equipment necessary to do that work. Now, if that fund is to be increased in any way, then we must consider that, during the period of four years which the Northern Pacific has been estimated to require for its reconstruction, there would be the operation of the road, certain parts of it, and this renewal fund will be provided out of the operation of such parts of this road as fast as it is completed and ready for operation; therefore, the provision of a renewal fund, as a separate item for reproduction cost, does not apply.

Q. Well, I don't know whether that would be for reproduction cost or not, as you define that term, but I want to see what we have got here, anyway. The wear and tear on your construction equipment is taken into account in figuring cost of grading and ballast and the like?

A. Yes.

Q. Now, eliminating the cost of those items altogether, and considering the reproduction new of rolling-stock upon the completed road, (so as to get at my question more sharply, perhaps) have you allowed anything for renewal fund in such case?

A. I have not, on the basis of reproduction cost.

Q. No. So then, your *present value* does not assume the existence of any provision whatever made for renewal; that is simply the percentage of condition of impairment by reason of use and time?

A. That is.

Q. But in order to provide for the renewal of rolling-stock and fixed structures after your road is completed, it would be necessary, would it not, in order to avoid adding to your capital, to provide a renewal fund, which would be the difference between your reproduction-cost new and present value?

A. Yes, that renewal fund would come from the operating income of the property itself.

Q. Yes, sir. It would be taken aside, from time to time, and kept on hand for that purpose?

A. Yes.

Q. And would be that amount and would apply to everything that depreciates, would it not?

A. It would apply to everything that depreciates.

Q. So that, upon your summary-sheet statement, the renewal fund would be the equivalent of the difference between present value and reproduction-cost new in every instance in which there is a difference, would it not?

A. It should.

Q. I mean if right.

A. It should. Of course, the establishing of a renewal fund is purely an arbitrary matter, just as the Interstate Commerce Commission, in giving its instructions, has given an arbitrary ruling as to what per cent should be charged off for a renewal fund.

Q. They didn't fix the per cent, did they? Are you not inaccurate about that? They directed them to fix the right per cent, and each railroad determined, on its own conditions, what would be the right per cent?

A. I think that is so. I would like to correct my testimony in that regard.

Q. I think that percentage is not fixed, and varies, as a matter of practice. Now, by the way, Mr. Henry C. Adams is the secretary of the Interstate Commerce Commission—

A. He is the statistician.

Q. —was one of the officers charged with the duty of valuing the Michigan railroads for the purpose of taxation, to which you referred during the early part of your cross-examination?

A. Yes.

Mr. How: Statistician of what?

Mr. BUTLER: He is the statistician of the Interstate Commerce Commission.

Q. And he prescribed, did he not, the rules which were followed in the Michigan valuation?

A. He did.

Q. And your rules, at least as evidenced by your circular letter, (the one to Mr. Horn being read in evidence) are in substance the same as his? at least, as far as the reproduction value of land is concerned, it is the same, is it not, exactly the same, in substance?

A. I do not think that Prof. Adams had anything to do with the land values. Prof. Adams was employed especially by the Michigan tax commission to establish the basis for the intangible value of railway property. The valuation of the physical properties of the railways was in the charge of Mr. Mortimer E. Cooley.

Q. Well, at any rate, his order in respect to reproduction value of the lands, was the same as yours?

A. About the same, yes.

Q. Substantially the same words. The conception of eliminating the property and considering the development as it exists, was the same, was it not?

A. Yes.

Q. I thought that was probably Mr. Adams, but it was the engineer, Mr. Cooley, was it?

A. Yes.

Q. Now, you included in your reproduction-cost new, certain elements which may perhaps be called non-physical elements, did you not?

A. No.

Q. Well, superintendence and engineering?

A. Well, that is a labor expense.

Q. Now, let me see: You included engineering and superintendence and lawyers, all together, in the same percentage?

A. Yes, they were all considered together. It was a difficult matter to separate them with any refinement, and I concluded that it would lead to less controversy and difficulty if I combined them at what seemed to be a fair average, and the consensus of opinion, as evidenced by the reports of the railway companies.

Q. And what percentage did you allow the Northern Pacific for all these items, lawyers and superintendence and engineering? That would include accounting, and all that, wouldn't it, during the period of construction?

A. Yes. 4½ per cent.

Adjourned until Thursday morning, December 31st.

CAPITOL BUILDING, St. Paul, Minn., Thursday December 31, 1908, hearing resumed at 10 A. M.

DWIGHT C. MORGAN,

recalled for further cross-examination, testified:

By Mr. BUTLER:

Q. Mr. Morgan, before taking up the subject of the percentages, upon which we were entering when the adjournment was taken, I want to again refer to this map No. 2, and especially to Section 1 upon it, being the property from St. Peter or Wabasha street to Jackson street, on the river front, on this side of the river, in this city. Now, as I understand the application of your method to that particular section of railroad property, it establishes precisely the same value per square foot for the land on top of the bluff and the land at the bottom of it, used by the railroad companies; or, in other words, you take the value of the land on Second street or Bench street, on the south side of the street, as the value of the land used by the railroads at the bottom of the bluff.

A. That is correct.

Q. And that is true, generally, of the application of your method to the various sections on these detail maps that you have prepared of the railroad properties in this city, and in the state at large, is it not, to-wit, that the market value, per square foot or other unit of measurement, of the railroad lands is taken to be the average of the lands in the section defined by you by those lines on each side of the railroad?

A. It is, generally, yes.

Q. Disregarding buildings and improvements?

A. Disregarding the buildings and improvements.

Q. So that the value of your method, of course, as applied to each section, would depend upon the soundness of the underlying assumption that the railroad lands are, on the average, of the same value per square foot as the lands in the section?

A. No, because, in addition to getting at the value of the lands as representing a true value, from the assessment basis, there has been added to those lands owned by the Railway Company, a percentage, which, taken together with the true value of the lands, is the railroad value.

Q. Well, I didn't make my question clear. I intended to limit the statement employed in my question to the market value, as distinguished from the railroad value, which is arrived at by adding your multiple to the market value; and with that limitation my statement would be true, would it not?

A. Yes, excepting that you are using the words "market value" there and I am using the words "true value."

Q. Do you distinguish?

A. I have not attempted to define market value. The market value, of course, is the asking price; the true value is the selling price.

Q. Well, in your scheme you took the actual sales-price?

A. Yes, I took the actual sales-price.

Q. As you understood the same, from the considerations expressed in the deeds?

A. Yes.

Q. And you understood that to be the market value between individuals for purposes other than railroad purposes?

A. I have not used the words "market value" any place in my work that I recall.

Q. Well, the blanks furnished by the railroad company did not contain the expression "true value" at all, did they?

A. No.

Q. And did contain the expression "average market value"?

A. That is correct.

Q. And that is the equivalent of what you have been using as "true value" during the course of your direct examination here; the phrase "true value" was not used at all in any of the blanks or forms that you provided the railroad companies or in any of the instructions furnished to the railroad companies for their report to you, was it?

A. No; I was speaking purely with reference to my own work, to my own investigations.

Q. Yes. And what you called for from the railroad companies was market value?

A. Yes.

Q. You yourself used forms substantially different, did you, from the forms which you furnished the railroad companies, in order to get at your inventory and prices of the elements of the properties?

A. No, the forms were the same.

Q. And the nomenclature generally the same?

A. Generally the same.

Q. In all respects the same, was it not, unless there be an exception with respect to this " market value"?

A. That was marked True Value on all the forms I used, stamped over True Value.

Q. Yes, but originally, and until your work was substantially completed, you called it "market value" in your forms,

did you not?

A. It was so sent out to the railway companies, and the forms that I used were so marked, except that I stamped over them, preferring to use True Value.

Q. And the forms you have used in your testimony here were originally written Market Value, but stamped over True Value?

A. Yes.

Q. So then, generally speaking, you understand that the value arrived at for lands in these sections, by taking the sales method; other than railroad sales, the sales between individuals, that those considerations expressed the market value in private transactions, to-wit, the value that the lands sold at?

A. Yes, in actual sales it represents the—

Q. And now, confining our consideration to these sections, the market value of the lands, other than railroad lands, in such sections was arrived at by applying to the assessed value this factor of 60, in St. Paul, and other similar factors elsewhere?

A. Yes.

Q. That is, 60 being the relation of assessed value to true value?

A. Yes.

Q. And the market value of such lands in these sections along the lines of the railways, was taken to be the exact equivalent in unit, in square foot, of the value of the lands used by the railroad companies, which you now call the "true value" of the railroad lands?

A. Yes.

Q. That is, the phrase "market value" is used by you as to the lands somewhat similar, in these sections, other than the railroad lands, and "true value" is used with respect to the railroad lands, and one equals the other per square foot?

A. Yes.

Q. Now, going back to the point upon which we entered when we adjourned last night,—In the Northern Pacific estimate you allowed for engineering and superintendence, including legal expenses, 4½ per cent on the first twenty-nine items, on the Estimate "A," table 2, being marked here Ex. QQ—Morgan?

A. Yes, that is right.

Q. Now, I would like to have you define, with complete exactness, what you intend to cover by this 4½ per cent.

A. It would probably be impossible to explain with exactness, just all of the items that would be included under Engineering, Superintendence and Legal Expenses. In making up estimates, there are certain arbitrary bases that have to be established, and that is the case with respect to this particular item. If given time, I think I can analyze it, but I should not wish to undertake to state to the Court just what that includes without an opportunity to go into it more thoroughly. I may say this, that from the various reports which have been turned in by the railway companies, this amount appears to be the equivalent of what has been turned in by eleven different railway companies in the state of Minnesota, comprising the Chicago, Burlington & Quincy, the Chicago, Milwaukee & St. Paul, the Chicago & Northwestern, the Chicago, St. Paul, Minneapolis & Omaha, the Duluth Union Depot & Terminal, the Great Northern Railway, the Minneapolis Eastern, the Minneapolis Union, the Minneapolis Western, the Northern Pacific and the Wisconsin Central.

Q. They all turn in 4½ per cent for the same items, whether expressed in totals or subdivided, stating legal expenses separately?

A. I believe so, yes.

Q. You did not, when you called for this information, define to the railway companies, did you, Mr. Morgan, what you wished to have included in this item 30 on your form?

A. No, I did not. I gave no instructions in respect to how the details of the work should be done, I left that entirely to the companies.

Q. And you find, do you not, some variation as to understanding of the terms, (I now speak generally) some including under one head what others include under another?

A. That might be true, yes.

Q. So that mere comparison of returns upon the same item-number might not indicate that the railroad companies making the return all had in mind the same considerations in getting at the figure for that particular item-number?

A. Probably not.

Q. Now, it is customary, is it not, for such a percentage to be allowed by railroad companies, perhaps the engineers, in making the estimates of cost of construction of a railroad, to cover superintendence, engineering and legal expenses?

A. It is.

Q. And is 4½ the amount that is customarily allowed, by existing railroad companies, in case they are building branches or making extensions?

A. I hardly think it would be as much as 4½ per cent in building branches or making extensions, because the road has already a perfected organization, and in that way the expenses may be divided over a larger mileage, and the proportionate amount chargeable to an extension might not be so great as that.

Q. In other words, they have an accounting department that is complete and an engineering department that is complete and a law department that is complete?

A. Yes.

Q. And, for that reason, you think the percentage to be allowed in the estimate of the cost of building an extension, or a branch of an existing railroad organization, ought to be less than in the case of a new enterprise being organized for the

construction of a railroad which has not yet any organization of a law department or an engineering department or an accounting department?

A. Yes, I should think so.

Q. Do you know whether or not, in point of fact, there is any amount that is considered customary, either by the existing railroads, for the extension of branch construction, or by a new railroad, for the construction of a new line beginning business?

A. I couldn't say that there is any fixed amount; I presume that, according to circumstances, it would vary considerably.

Q. Depend upon the conditions, would it not, a great deal?

A. For example, you take the engineering work of constructing a line in the mountains, where it is necessary to run several lines and to make very careful topographical notes and to make numerous explorations, before the location is determined upon; under those circumstances, there would be considerably more cost chargeable to engineering than would be the case where the conditions of construction are simple.

Q. And, in like manner, conditions would very seriously affect the amount of legal work, would they not?

A. Yes, that would have a bearing, of course.

Q. Now, of course you do not intend all this 4½ per cent under item 30 to represent the fact to be that the elements, whatever they are, that are intended to be covered by that 4½ per cent, apply uniformly to each of the 29 items ahead of it; but your idea is that, applying more or less to each of the items, the average would be 4½ per cent?

A. Yes, it is 4½ per cent on the total of the items 1 to 30; and upon some there would be perhaps no charges to amount to anything; and on others—

Q. For example, the fluctuation in item 1 (that is the value of the lands taken by the railroad company for its enterprise and the cost to get them) probably would not, of itself, seri-

ously affect the engineering expense?

A. No.

Q. And probably would not affect at all the accounting expense?

A. Probably not.

Q. And might or might not, probably would not, affect the legal expenses?

A. It would depend upon the conditions, of course, in respect to how this would be divided over the various items.

Q. So it would be, would it not, an utter impossibility to indicate, with any certainty at all, the relation between item 30 and each of the other 29 items?

A. I think it would be a very difficult thing to do; and, as I stated in the first place, it is an arbitrary charge.

Q. And a conventional charge?

A. Yes; that would be conventional, too; arbitrary or conventional.

Q. And is it not for that reason that you did not, at the time you called upon the railroad companies, and now, feel willing to undertake an exact definition of what item 30 covers?

A. That is the reason.

Q. Did some of the railroad companies report legal expenses separately from engineering and superintendence, or do you hold that in mind without reference to your data?

A. None that I recall; they followed the forms as they were prepared.

Q. Have you in your own mind made any such separation as to be willing to express what percentage on the first 29 items ought to be allowed for legal expenses?

A. I have not.

Q. Or, separately, for accounting expenses?

A. I have not.

Q. Or any particular item?

A. I have not.

Q. Item 37 is fixed in your Estimate "A", Northern Pacific case contingencies, at 5 per cent of the total of items from 1 to 36?

A. Yes.

Q. Now, that percentage applies to the items covering the rolling-stock, in addition to the items covered by the percentage allowed on 30?

A. Yes.

Q. That is to say, according to this form, it is to be assumed that, as respects items 31, 32, 33, 34 and 35, (locomotives passenger equipment, freight-car equipment, miscellaneous equipment, marine equipment, there would be no engineering expense,) there would be no accounting expense and no legal expense, and no expense of any of the kind or description which is included in item 30?

A. That is so, with this modification: that, in respect to the cost of locomotives, in respect to the cost of passenger equipment, in respect to the cost of freight-car equipment, in respect to the cost of miscellaneous equipment, it can be arrived at very much closer than it is possible to arrive at the elements contained in the estimate between 1 and 29; and in allowing 5 per cent for contingencies, including these items, it was considered that it would be sufficient to cover any additional expense that might attach to the equipment.

Q. Well, would not the element of accounting included in item 30 apply with as much force to items 31, 32, 33, 34 and 35 as it would to the items from 1 to 29?

A. It might, if you desired to make the distribution in that way.

Q. And would not the legal expenses with respect to the rolling-stock item apply with as much force as it would to the sum of the other items from 1 to 29?

A. If the distribution is made in that way.

Q. And, indeed, in the matter of engineering and superin-

tendence, is there not certainly an element of engineering and superintendence cost included in items 31, 32, 33, 34 and 35, mechanical engineering, perchance?

A. Yes, there would be an expense of that kind, which I have seen fit to include as a part of the contingent expense.

Q. Well, now, do I understand, then, that item 37, contingencies—Well, I will ask you first to define (with exactness, if you can) the elements intended to be covered by "Contingencies."

A. On the direct examination I defined "Contingencies" as I had considered it in this estimate. I do not know that it is necessary to read that into the record again.

Q. What page is that?

A. That is on page 33 of my report to the Commission.

Q. That has been read in, has it?

A. Yes. But let me illustrate in this way: Here is a locomotive, we know, very closely, what locomotives cost; now, take an engine that cost $15,000, an allowance of 5 per cent for contingencies on that locomotive would be $750. That is more than should be allowed on the purchase of a locomotive, ordinarily; there may be some slight modifications from the specifications, there may be some slight changes made in the engine; but, as a rule, if the price you have applied to a locomotive is a fair one, then there is no justification for allowing $750 for contingencies on an engine that cost $15,000. So, in that way, these various items 31, 32, 33, 34 and 35, comprising the equipment of the road, upon which 5 per cent has been allowed in the nature of contingencies, also covers the additional expenses attached to those particular items in the elements of reproduction cost.

Q. Well, can you tell the things that are intended, that you intended, to include in that item 37, contingencies 5 per cent, on the first 36 items?

A. It would be difficult to describe with exactness what

particular elements would be considered in arriving at five per cent for contingencies.

Q. I didn't intend, Mr. Morgan, to ask you what considerations you took into account to determine the percentage allowed at 5 per cent, but what I intended to call for was what things you intend to have embraced under the item Contingencies; not how you reached the particular percentage, because from the force of the term itself, we can see that that might be difficult. Contingencies means something, perhaps, not foreseen, or certainly not definitely foreseen and understood; but, now, I want to get at what, in experience, are the things that fall under that head, and I wanted, if you can, to define with exactness what are the things; and if you cannot define with exactness I would like it if you would illustrate by mentioning some of the more common or obvious occurrences that are likely to be encountered which are not foreseen.

A. You mean with respect to any of the items?

Q. Yes, any or all, just as you can conveniently.

A. Well, with respect to grading, there are certain contingencies attached to that which it is oftentimes difficult to fore see, such as the particular classification of material, which would vary; in respect to rails, we can get at their exact cost per ton, but there may be some contingencies attached to the extra handling of rails in getting them into service; in respect to bridges, trestles and culverts, there may be some unforeseen items that must be taken into account and provision made for them.

Q. Now, any other items particularly that you would like to speak of, as illustrative of what you intend to include in item 37, besides the grading and the rails and the bridges, etc.?

A. Well, that would be true, substantially, of most of the items that are included between 1 and 29.

Q. Now, it is not your idea, is it, Mr. Morgan, that the per-

centage properly allowable for contingencies applies uniformly to the first thirty-six items here?

A. No; it might not apply uniformly.

Q. It certainly would not?

A. No.

Q. That is true, that it positively would not, is it not?

A. Yes, it is.

Q. And it is also true that it is almost certain to apply very strongly to grading?

A. Yes, I think that is so.

Q. And depending upon conditions where the item of contingency would go. The percentage on the item for grading, alone, might run very much above your five per cent, grading and tunnels, and the like?

A. On individual cases, yes; it might run above five per cent.

Q. It might run as high as fifty?

A. Yes.

Q. Or a hundred?

A. Yes.

Q. And even more; that is one of the great uncertain elements in railroad construction, isn't it, the handling of the earth, making your banks and fills and cuts, and the like, providing drainage?

A. Yes.

Q. Tunnels?

A. Yes.

Q. Accommodations for the public at highways, changing the location of highways, and the like?

A. Yes.

Q. Providing for passageways above or below or upon the track for abutting owners?

A. Yes.

Q. Protecting abutting land from flowage, and all those

things,—make that item very, very uncertain, do they not, Mr. Morgan?

A. They do for a projected line; there is no question about it.

Q. That is what we are speaking of now.

A. I am speaking of reproduction of these existing lines.

Q. And in respect to an existing line, I understood you to say that, by reason of the work itself, the construction sometimes so destroys the original conditions that it is utterly impossible to estimate what work has been done in order to build the railroad that you see?

A. I think that is true.

Q. That is frequently true? True in frequent places on every line, is it not?

A. Unquestionably.

Q. And where lines are old, the inability to see what was done to build them is greater than when they are new, by inspection of the completed road? The lapse of time, itself, obliterates evidences of what was done, does it not,—by growth of vegetation, washing, and the appearance of the surface becoming similar, by lapse of time?

A. Yes, it does; and unless you have information in respect to those particular things, it would be very proper to make a greater allowance for contingencies than I have shown in my estimate.

Q. Yes, that is what I was coming to. If you were trying to fix a percentage of contingencies upon each of the items, you would have to fix a very much higher percentage on the item of grading?

A. Yes.

Q. And that would be so variable, depending upon conditions, that it would not be desirable to undertake to itemize it that way?

A. I have not undertaken to separate it in that way. We

have, however, the data in respect to most of the unforeseen things that were encountered in the construction of the Northern Pacific in grading.

Q. For example, did you undertake to establish the percentage of grading for the Northern Pacific, the contingency percentage on grading for the Northern Pacific road?

A. I did not.

Q. That is impossible, isn't it?

A. I should say it would be a very difficult task.

Q. When you got to a conclusion, you wouldn't have very much respect for it, in all human probability, because of the difficulties of the problem; isn't that true?

A. Yes, it is not an easy problem to estimate the cost of reproducing railroads.

Q. Now, the sum of the experience is perhaps evidenced by what you say. The usual custom among railroad engineers, in the projecting of new lines, is to allow for contingencies ten per cent—

A. Yes.

Q. —on the elements which you have covered by the first thirty-six items?

A. By the first thirty-six items.

Q. And it is not infrequent, is it, that it occurs that ten per cent in respect to a projected line is altogether too small?

A. That is correct.

Q. It is very, very often found, is it not, in the case of projected lines, that ten per cent on the elements, on the figures included in your first thirty-six items here, is altogether too small, and it is so recognized generally by the profession of railroad engineers, is it not?

A. Yes, I think this: that the element of contingencies would be dependent, to a certain extent, upon the care with which the investigations had been made.

Q. But even with the best care, the highest degree of human

foresight is not equivalent to the wisdom of experience, with respect to the building of a railroad line, is it, Mr. Morgan?

A. I don't know that I understand that question.

Q. Well, we will strike that out. With the highest degree of care and vigilance beforehand with respect to the location and the solving of all of the problems affecting cost, contingencies may be very greatly in excess of those apprehended, may they not?

A. That is true.

Q. So that there is only about one sure way to find out what it will cost to build a railroad, and that is to build it?

A. I should say that is a very good way.

Q. That is the best way you know of, isn't it, Mr. Morgan?

A. I think it is, yes.

Q. Now, harking back for just a moment to the cost of getting the lands, both in the country and in the cities, the best way in the world to find out what it will cost to get the lands is to get them, isn't it?

A. Yes, that is what I have tried to do wherever the railroads have bought any.

Q. Now, with respect to the unnumbered item, Interest,—at the bottom: That, as I understand it, is an amount allowed upon all moneys expended for the use of the money during the average period that it is in before the completion of the road?

A. Yes.

Q. And the way you got at that was to estimate the probable time that would be taken in the construction of the road, divide that time by two, ascertain the amount of the first thirty-eight items and figure interest at the rate of four per cent per annum for half the time?

A. Yes.

Q. And that presupposes, does it not, that the railroad company would be able to procure upon its obligations, either its bonds or its stock, the full amount of money required to ac-

quire its land and construct its road, at four per cent per annum?

A. I have not presupposed upon the stocks or bonds in respect to the estimate of the cost of reproduction; I have considered it as a cash proposition.

Q. That is, your assumption was that when it started out it would have the money in the treasury, when it started to do the work?

A. Yes, part of it to start with.

Q. Yes, and knew where it was going to get the rest?

A. Yes.

Q. You do not, then, take into account what the experience of railroad companies has been with respect to the cost in the way of interest of getting money to build their roads?

The MASTER: Mr. Butler, I think the Complainant, in putting in its testimony in this case in respect to this item, did not take that into consideration, but that that was a separate consideration as to which their testimony was directed.

Mr. BUTLER: Well, this question with respect to interest I intended to limit to the mere interest.

The MASTER: Yes, you didn't have reference to the discount of bonds?

Mr. BUTLER: I didn't intend to, by this question, your Honor, and I wanted to get at just how Mr. Morgan establishes the four per cent.

The MASTER: That is, as to whether it should be four per cent or six per cent, or eight per cent, or something of that kind?

Mr. BUTLER: Yes.

The MASTER: Referring particularly to this item of interest; that is, as to the rate which he has used here?

Mr. BUTLER: Yes, that is it.

WITNESS: That is an arbitrary rate that has been applied; and, as I stated in my direct testimony, that it was impossi-

ble for me to go into an attempt to analyze the forces and influences, either normal or artificial, which affect railway construction. The reports furnished by the railway companies in respect to interest during construction were, I think, in most cases—in a good many cases, at least—at a less rate than I have—

Q. Per annum?

A. —at a less rate per annum than I have included in my estimate. As I also stated, it was difficult for me to tell, from the reports of the companies, how long they had estimated the time required to build their lines. For example, the Omaha road put in one per cent as interest during construction. Now, how they arrived at that, I do not know. Possibly it might have been done by considering the value of their securities on the market to-day, or there might have been some other method adopted. But I have been considering this as a straight business proposition, where the money would be provided to go ahead on a cash basis to build this road, and that on that theory four per cent would be fair; and it does not undertake to take into account all of the difficulties that are encountered in launching railway enterprises in past history, which cover the whole range of financial transactions.

Q. Did you allow the same rate of four per cent per annum for all the roads?

A. I did.

Q. The time assumed as necessary for reconstruction varied according to the size of the road?

A. Yes.

Q. And the difficulties of the problem?

A. Yes.

Q. But you did not, of course, intend to include in this item of four per cent the expense of procuring money, whatever that expense might be, whether by way of discount on securities, commissions, bonuses, or anything of that sort?

A. No.

Q. Or the rate of interest which was current, as a matter of fact, upon such things?

A. Only to this extent, that I think the rate of interest current upon the outstanding bonds of the Northern Pacific, at the present time, is less than four per cent.

Q. Yes. Well now, was that the reason that you fixed four per cent?

A. No.

Q. No.

A. That happened to be the result of one of my investigations, however.

Q. Yes, that happened to be a fact.

A. That I investigated to help satisfy myself in respect to—

Q. Of course, you never knew of a railroad, did you,—a new road projecting a line,—to be able to procure the full amount of money necessary for that enterprise at anything like four per cent?

A. As I stated, it is purely arbitrary; just as it is arbitrary in the report of the Northern Pacific, which is submitted also in this case.

The MASTER: It is allowable, as I understand, because the money that may be put in to-day will not begin to produce a revenue on the average for about two years?

WITNESS: Yes.

Mr. BUTLER: That is, assuming four years to be the period of construction.

The MASTER: Yes.

Mr. BUTLER: If two years was the period of construction, it would begin in one, according to Mr. Morgan's theory.

WITNESS: Yes.

The MASTER: I so understand it.

WITNESS: Of course, the idea was that it would not be neces-

sary to borrow all of the money or to raise all of the money at once, but it would be raised in such a way that it would all be in use for practically half of the time required to construct the line.

The MASTER: Half of it would be lying idle?

WITNESS: Yes, half of it would be uncalled for.

The MASTER: That is, it would be going into the road and nothing coming out of it?

WITNESS: Yes.

Q. In your instructions to the railroad companies, you didn't prescribe any rule for getting at the percentage—

A. I did not.

Q. —to cover all this item of interest. You left that to each railroad, according to its own particular notion of what was right under the circumstances?

A. I did.

Q. And in your reports you had a range of from one per cent per annum to twelve per cent per annum,—was that it?

A. No, from one per cent to twelve per cent as total.

Q. From one per cent to twelve per cent as total?

A. Yes.

Q. But you reduced them all to harmony by establishing it at four per cent per annum and then figuring it on the basis of the time involved?

A. Yes.

Q. Without regard to what the railroad companies themselves claimed about it?

A. Without regard—

Q. If they were lower you raised them, and if they were higher you reduced them?

A. That is correct.

The MASTER: That is the same rate that the Complainant here claims, except that it claims for a period of five years instead of four years.

Mr. HOW: My recollection is the Complainant extends the time to eight years instead of four.

Mr. DURMENT: For Minnesota?

Mr. HOW: Yes.

Mr. DURMENT: Oh, no.

Mr. HOW: I may be wrong about that. That is Mr. Darling's statement.

The MASTER: That item here is interest at ten per cent, two and one-half years at four per cent.

Q. Now, is it the uniform custom of railway engineers, in figuring the percentage covered at item 30, (that is your four and one-half per cent for superintendence, engineering and legal expenses) to apply that percentage only to the items from 1 to 29, or do not some of them, or do some of them, apply it to all of the items that you apply contingency percentage to?

A. Oh, I presume that there would be a difference in respect to that, the same as there is a difference in respect to other matters.

Q. You don't know that there is any uniformity about that?

A. I do not believe that there would be entire uniformity. Engineers differ in their views in respect to many things.

Q. There is as much reason to apply the percentage of legal expenses, superintendence and engineering to some of the items below item 30 on your Exhibit QQ, as there is to some of the items above?

A. Yes, I think that is so. Yes, I do, and in my estimate I have covered that under the item of contingencies.

Q. Then your definition of what is included within item 30 and within item 37 overlaps, because in item 37 you make your percentage big enough to cover the engineering, superintendence and legal expenses involved in items 31, 32, 33, 34 and 35?

A. Yes, that is true to the extent that the item of contin-

gencies as provided there and allowed on equipment is an excessive sum for those particular items.

Q. In other words, in your definition of terms there, there is no line of demarkation as respects items 31, 32, 33, 34 and 35 between contingencies, indicated at item 37, and engineering, superintendence and legal expenses, indicated at item 30?

A. No, there is no line of demarkation definitely fixed, other than is shown in the estimate and as has been stated.

Q. Now, with respect to the other items, Mr. Morgan, (that is, from 1 to 29) would there be the same overlapping of 30 and 37 as there is with respect to 31, 32, 33, 34 and 35?

A. I don't know that I understand that question.

Q. Well, with respect to the rolling-stock you cover engineering, superintendence, legal expenses and the like, those things that are included in item 30 you cover by the contingencies?

A. In 37.

Q. Yes. So there is an overlapping, then, in the understanding to be given to these terms expressed at 30 and 37 with respect to those rolling-stock items, is there not?

A. Yes.

Q. Now, is there a similar overlapping with respect to the other items from 1 to 29?

A. No.

Q. Was there any such intended?

A. No, it was not intended.

Q. Now, with respect to contingencies, while in the building of a new line you are of opinion, as I gather, from your testimony, that, generally speaking, in territory like Minnesota, ten per cent would be right, yet in the reproduction cost, such as you have undertaken under the direction of the State here, you think it should only be half that?

A. I think five per cent would be a fair allowance for con-

tingencies under the circumstances in which my work was done.

Q. That is, your assumption is that the present railroad (the Northern Pacific railroad) be eliminated, and then you start to reproduce it, but you preserve the experience that has been acquired during the existence of that road touching the question of the amount of the contingencies; is that the conception, Mr. Morgan?

A. The knowledge which has been acquired in respect to the Northern Pacific, of course, is due to the fact that the road is actually constructed, and I have taken into my estimate an account of many unforeseen things which were encountered in the actual construction of the line, and it is those things which have justified me in using five per cent as fairly covering the contingencies. So that, in one sense, we have taken advantage of the existence of that road at this time and the opening up of the material during its entire length and of the soundings and depths of sink-holes where additional material has been put in. Had I not been in the possession of information which would guide me in that respect, I should have increased the percentage, but, as I stated in my direct examination, I had with me on the inspection of the Northern Pacific Mr. M. C. Kimberly, who has been associated with the Northern Pacific road for a great many years, from the time of its construction up to now, and he is thoroughly familiar with it in every detail, and there was not an opportunity, I judge, that Mr. Kimberly missed to call my attention to some things that he knew had transpired in the actual construction of the line during the thirty years of its existence. Notes were made of all of those things, and they were taken into account in my estimate of the cost of reproducing the property. It *was* an advantage to know of these things, and knowing of them they were included; and, as I say, otherwise I should increase the percentage allowed.

Q. Assuming an absence of the knowledge which was the result of experience, paid for, during the life of this Northern Pacific Railway Company, you would have made that contingency percentage ten per cent, at least, rather than five, would you not, Mr. Morgan?

A. Yes, I think probably something like that.

The MASTER: Why have any contingent fund at all? Why have any charge for contingency at all?

WITNESS: Well, there are a good many items that would have to be considered as having contingencies attached to them; as I tried to explain a little earlier in the testimony. For example, the ballasting: It would be necessary to provide a contingency for ballasting. And it would also be necessary to provide a contingency for cross-ties, because cross-ties might fluctuate some in value, there would be some change in the cost. There would be, perhaps, some change in labor conditions; and many items of that kind seemed to justify a contingency. But, in view of the complete information that was obtained in respect to the Northern Pacific property, it seemed to me that five per cent was a liberal and fair allowance for that item.

Q. Assuming, in the problem of reproduction, that they knew as much as they have learned while the road existed with respect to conditions affecting these contingencies?

A. Yes.

Q. Now, conditions of the weather during the period of construction affect very seriously this item of contingencies, do they not?

A. Yes, they would.

Q. For instance, a shower and rain-storm at an unfortunate time during a period of construction of an important part of the road, might cost a very large sum of money, might it not?

A. No question about it.

Q. And what you tried to indicate or allow for by this five

per cent, are those contingencies which, even now, after the experience acquired in the history of the building and operation and maintenance of the road, could not be foreseen in the estimate and allotted to some other item in your summary sheet of the analysis of your inventory-costs here?

A. They had been put in under the various heads.

Q. On the theory that, even now, with all of the experience they have had in building a road, maintaining it and operating it, there would be an amount equivalent to five per cent on all of the other items—

A. Yes.

Q. —that could not be foreseen and taken into account?

A. Yes.

Q. And in the absence of the experience so acquired, you would double the amount and call it ten?

A. Yes, without a detailed knowledge and examination, I would be compelled to increase that.

Q. And without such knowledge as can only be acquired by the opening up of the surface of the earth for the construction of the line itself?

A. That is the only way it can be acquired with accuracy.

Q. Now, in the problem of reproduction cost, as established for the purpose of taxation, in the state of Michigan, by that body of state officials there, there was allowed ten per cent for contingencies, was there not, Mr. Morgan?

A. I believe there was.

Q. And they had before them the reproduction cost of existing railroads; that was the problem, was it not, the precise problem which you undertook for this state?

A. In the state of Michigan, the appraisal was made entirely independent of the railroad companies. It was made by employes of the state, who were sent out over the lines and measured up various things. They went entirely independent of the railroad companies, in every respect, in that work. It

was not carried on in conjunction or cooperation with the railway companies, as the work has been done here.

Q. But, of course, they inspected the property and gained such information, did they not, as a skilled engineer, (Mr. Cooley, to whom you refer in your report,) and his assistants, could obtain by a physical examination of the face of the railroad tracks and the face of the earth after the construction and completion of the various railroad properties of that state?

A. Yes, that might be true.

Q. And, of course, could discover the places of sink-holes, muskegs, etc.?

A. I don't think so.

Q. They could discover the places, but not the quantities?

A. I don't know that they could discover the places.

Q. Couldn't discover the places. Well, an engineer, certainly, Mr. Morgan, after the completion of a road, by inspection, when he is not told by the Nestor or historian of the road of the conditions, can get at some of the considerations that enter into this element of contingencies which no man, however skillful, can get at before the road has been built?

A. That is entirely correct.

Q. And you assume, do you not, that the Michigan people had before them the result of physical examinations of the road, saw the roads and inspected them?

A. I presume they did; I was not there.

Q. And notwithstanding that, they allowed, with all that information, ten per cent for contingencies?

A. Yes.

Q. Have you in mind the mileage of railroads constructed now in Minnesota yearly for the last eight or ten years?

A. I have not, no.

Q. You did not assume the contemporaneous construction of all these roads, did you?

A. No.

Q. But you did assume the contemporaneous construction of certain parts of them in the cities, down in the creeks and valleys that you referred to yesterday?

A. Yes, as I referred to the Northern Pacific we considered the reproduction of that property as commencing at Duluth and St. Paul, and extending in two directions from Duluth and in two directions from St. Paul.

Q. How long do you think it would take the Northern Pacific Railway Company to reproduce its terimnals at Duluth, conceiving the absence of the railroad to begin with?

A. It might require several years to do so; perhaps the full length of time that I have estimated.

Q. It would probably take them the full four years to construct those terminals, alone?

A. Yes.

Q. Is that true of St. Paul?

A. I should say so.

Q. And of Minneapolis?

A. I should say so.

Q. So then, your idea would be that they would be working with all practicable speed during the full four years in each one of these large cities?

A. Yes; but, of course, I would like to make it plain that it is not necessary to possess all of the facilities at once, but they are gained gradually. You cannot start out and wait until you have bought all of your right-of-way before you begin the construction of your tracks, but those things must go along simultaneously and be acquired here and there, during that period of time.

Q. And, of course, on the assumption that all of the railroads were to be constructed contemporaneously, the time would be much longer, but you probably have not undertaken to even make a guess at what time would be necessary?

A. No, I have not considered it that way.

Q. An activity, such as would result from the completion of these terminals in these three cities, as well as the other mileage of the road, which in the aggregate, counting all kinds of lines, amounts to—

Mr. How: 1,519½ miles.

Q. —1,519½ miles, would very seriously affect the market of labor and material and the elements going into the work, would it not, by enhancement of demand?

A. Well, that would depend upon circumstances entirely. If you are to take the conditions where there is stringency for labor, and stringency for material, that would undoubtedly be true; but I have not assumed that these abnormal conditions which *might* be brought up would prevail or be taken into account as fair to be considered in connection with the reproducing of these roads.

Q. Well, if you were to assume the normal railroad activity and then assume, in addition to that, the activity that would necessarily result from the construction and reproduction of such a property in four years, you must necessarily assume a greatly enhanced demand in this part of the country, and, therefore, the tendency, at least,—I am not asking you to measure it,—but the tendency, at least, would be to increase the cost of practically every unit going into the reproduction?

A. No, I should not say that.

Q. Well, most of the units?

A. Some of them it would.

Q. Some of the most important ones?

A. Well, yes, you might say some of the most important ones.

Q. What ones do you think of that would not be affected by such enhanced demand and such abnormal conditions that you necessarily assume in fixing your four years?

A. Well, I don't believe that there would be any material effect upon the price of rails; I don't believe that there would

be a very large effect upon bridge material, and other items of that character.

Q. In your work in getting at your detailed costs of reproduction, did you allow anything for working capital with which to carry on the business of the Road, aside from item 38, which I do not understand to mean the same thing as I mean by the phrase "working capital"; item 38 is Stores and Supplies in Minnesota.

A. Yes.

Q. I mean working capital.

A. No, I can't say that I did. However, I believe that, in the period of four years required to construct the Northern Pacific System in Minnesota, for a very considerable part of the time the road would be producing something; that it would be able to take care of itself along such lines as might seem to justify an inclusion in this estimate of such an item as has been suggested. In other words, I have not assumed that the Northern Pacific railroad during the period of its construction would remain idle, that it would not turn a wheel or earn money until it was all done, but during that period it would be earning, and, if it possessed the traffic that it possesses to-day, it would be earning very largely.

Q. Well, you didn't undertake to fix a figure of what it would earn in the way of income?

A. No. No, that was a general consideration.

Q. Yes, and in taking into account that general consideration, did you assume its existence, as it now is, outside of the state of Minnesota?

A. I was considering the property in the state of Minnesota.

Q. That is, without assuming that there was anything else to it? In other words, you were not assuming any interstate business here, Mr. Morgan?

A. No, I was confined entirely to the state of Minnesota.

Q. And the business that was begun and moved and ended within the state during the period of construction?

A. Yes, but might have connections with other lines.

Q. Now, let us get away from that idea for a moment, and consider this one: Assume the road to be completed in its physical parts; a fund or capital with which to carry on its business is necessary, is it not?

A. Yes.

Q. Just as necessary as the locomotives and track?

A. Yes.

Q. Did you make any estimate as to what such a fund should be?

A. I have not.

Q. And you don't care to express an opinion upon that point, perhaps?

A. I do not, other than I have already stated, that I thought that would be covered by the earning capacity of the property.

Q. I think that does disclose your position in getting at reproduction cost, but my later question may, on the plan that you have followed, be outside of that. Now, in this general consideration that you took into account which you think justifies the omission of an allowance for working capital, did you take into account the increased cost of doing business by reason of the incompleteness of the property, the sparseness of the traffic on account of the same conditions, and did you assume that, during the period of reconstruction, it could earn enough to conduct the transportation, pay interest on the money so far invested, and the like, and, in addition to that, accumulate a fund sufficient for a working capital?

A. I didn't go into the refinements of it to that extent. I considered it entirely on the broad ground that there would be earnings from the property. Now, what they would be I didn't undertake to estimate; but I think it stands to reason that on a system comprising a thousand miles of line in this

state, during a period of four years, if there was any justification for the construction of the line, in the first place, it would produce something during that four years. Now, what that would be, I did not undertake to arrive at a conclusion but considered it generally as appealing to me to be a fact that would exist.

Q. Well, you, of course, feel, do you not, Mr. Morgan, that during the period of reconstruction, such transportation for the public as the railroad might undertake, would be done at great disadvantage, and, therefore, at greatly enhanced cost, by reason of the incompleteness of its property and the use of that which was completed for the construction work?

A. There would, undoubtedly, be disadvantages which attach to any new railroad.

Q. And that would enhance the cost of hauling anything for the public, wouldn't it?

A. I should think that it would.

Q. And the hauling for the public would enhance the cost of building the road, wouldn't it, by interference with the construction operation, by one operation interfering with the other? I think you mentioned that in the case of ballasting.

A. Yes; yes.

Q. And the consideration that you mentioned in the case of ballasting, as interfering with the traffic of the road, and the traffic of the road interfering with the ballasting—

A. Yes.

Q. —would apply with much greater force during the construction of the new property?

A. Yes; that is so.

Q. The life of a tie is ten years, I think you said?

A. I estimated it at about ten years.

Q. Often estimated at less than that, is it not?

A. Oh, yes, frequently.

Q. About eight?

A. Yes, sometimes six; cedar ties will last much longer; and there is a considerable percentage of the Northern Pacific laid with cedar ties.

Q. It depends on the kind of ties and conditions, I suppose, effecting rot, and the like?

A. Yes.

Q. Ties wear out rather than rot out, largely?

A. Yes.

Q. In your estimate of reproduction-new cost, did you make any allowance for wear and tear of material during the period of construction, during the four years? The ties first put in, half of the life would be gone; as, for example, before you got your road completed, you would have to again put in new ties, right away, practically?

A. I did not take that into account in the reproduction cost.

Q. You concede that there is an element of wear and tear, during that period, as well as during any other period in the life of a railroad?

A. Yes.

Mr. O'BRIEN: Does that affect the cost, Mr. Butler?

Mr. BUTLER: I thought it did. I was trying to find out what was included.

Mr. O'BRIEN: I supposed we were trying to find out what it would cost to construct the road. The question as to whether, at the end of four years, they had depreciated or not, would not affect their cost.

Q. Now, that consideration would be very much the same, would it not, as interest during the period of construction? The interest would be the use of the capital involved, and wear and tear would be the depreciation from the original value or cost by reason of the lapse of time and use, the very items that you have taken into account in getting your difference between "reproduction-new cost" and "present value"?

A. That might be true. I have not considered it in that light. I do not consider that the fact that there is wear and tear affects reproduction cost of the property. That is one thing to be considered; the fact that it wears out and costs additional money to maintain it, is another.

Q. Well, during the very period of construction, itself, these four years, all of the forces and elements which you have taken into account in getting at the difference between your "reproduction-new cost" and your "present value" as you have indicated on your exhibit QQ, Estimate "A", would be operative, in full force, or greater force than during any other period of the life of the road, would it not, Mr. Morgan?

A. Well, I don't know that it would. It would probably be a little more unequal than would be the case after a road has been constructed for twenty or thirty years and can adjust itself to uniform maintenance expense from year to year.

Q. Well, the wear and tear on certain items would be much greater during the period of construction than subsequently, by reason of that very fact, would it not?

A. It might on some items, yes.

Q. On rails and ties, especially?

A. No, I don't think so.

Q. It would on ties?

A. I don't think so.

Q. Wouldn't they rot as fast during the period of construction as they would after it had been completed?

A. I don't think they would rot any faster.

Q. They would certainly rot as fast?

A. Yes; you ask me if it would not be greater, and I—

Q. The rail would wear just as fast?

A. The wear in the rail is dependent upon the traffic that goes over it.

Q. Well, assuming the same wheelage over it?

A. If we proceed upon the theory, as you have suggested,

that it is only going to be business which is done in Minnesota, the wear on the rail would be very slight.

Q. But if on your theory, it would be greater?

A. Upon the theory of—

Q. —that you have defined, it would be greater?

A. I don't understand that I have defined any theory.

Q. You have assumed that they would be earning money from the public to accumulate a working capital?

A. During the period of the four years?

Q. Yes; that is a part of the period of construction, isn't it?

A. Yes.

Q. And so with locomotives and cars in use, assuming the use to be the same, the depreciation would be just as much, wouldn't it, or probably more, by reason of the lack of adjustment of the parts to the property?

A. I can't say that it would be more.

Q. It would be just as much?

A. In some respects it would and in others it would not.

Q. As to the locomotives?

A. As to the locomotives—a locomotive would wear more according to the service—

Q. I said assuming like use.

A. Oh, assuming like use?

Q. Yes.

A. Well, I should say it would be the same, yes. I didn't understand your proposition.

Recess until 2 P. M.

AFTERNOON SESSION.

Q. Mr. Morgan, the next subject that I wanted to interrogate you about is the item which you have numbered on Ex. QQ, "29, adaptation and solidification of road-bed." Did the blanks which you sent out to the railroad companies call for figures on that item?

A. They did not call for it specifically, although there was one blank space left on the form, 51, which was sent to the railway companies.

Q. The item was numbered on the blanks, but not designated?

A. Yes.

Q. I understood you, in direct examination, to say that only one railroad company showed anything expressly under that item.

A. That road did not show it expressly under that item.

Q. It did not?

A. No.

Q. But there was only one railroad company that carried, separately, anything for adaptation and solidification of road-bed?

A. Yes, and I have stated, further, that my judgment was that the prices which had been put in by the railway companies were sufficiently high, in themselves, to cover that element of adaptation and solidification of road-bed.

Q. Yes, and your idea was that the figures included in grading, and, perhaps, other items, all taken together, would be enough to cover that?

A. That was my judgment, yes.

Q. Now, there was nothing said in your instructions to any of these companies upon this subject of adaptation and solidification of the road-bed?

A. I gave no instructions in regard to it.

Q. That subject was not mentioned at all in any of your letters, was it?

A. I don't recall that it was, no.

Q. Now, notwithstanding you have already done so, in direct examination, to some extent, (and perhaps sufficiently) I would like to have you now define what is to be understood by item 29, Adaptation and Solidification of Road-bed; that is to say,

the elements that you intended to cover.

The MASTER: Has that been read into the record?

WITNESS: That has been read into the record, in the direct testimony.

Q. Well, we won't do that again. You think that is complete, do you, Mr. Morgan?

A. I read all that I had to say on that subject.

Q. What page is that on?

A. That is on pages 29, 30 and 31 of my report to the Commission.

Q. In arriving at the amount, I think that has not been treated in your report,—the method of getting at the amount to be allowed, Mr. Morgan; has it?

A. Yes, that has.

Q. Did you use the same method as to all companies?

A. Substantially so, yes.

Q. The same amount relatively?

A. I should say that it was about the same relatively for each of the companies.

Q. That is, per mile?

A. Per mile.

Q. And per mile of road, how much did you allow for solidification and adaptation? roughly or exactly, as is more convenient to you.

A. Well, on the main lines I allowed about $1,750 per mile; on the branches $875 a mile.

Q. Anything for the terminal tracks, yards, and the like, other than the main line and branches?

A. Yes, we allowed, I believe, a half man per mile in the terminals for the period. I would want to look that up in my record before answering definitely, but it is my impression that we did.

Q. Well, just look at the figure; item 29 is $1,613,612.76, and the single main track is 967 miles.

A. That would all depend upon how much was branch and how much was main line; we couldn't tell, from the table itself here.

Q. Well, the main track, with single and second main track, amounts to over a thousand miles, considerably, and a thousand times 1,750 would be a million and three-quarters?

A. About that.

Q. The figures don't exactly match, do they, Mr. Morgan, at the rate of $1,750 a mile?

A. Not at the rate of $1,750 per mile.

Q. Of main line.

A. Of main line, because some of the lines were considered as branch lines. For example, take the line—

Q. Oh, yes, I understand your definition; now I recall.

A. Take the line from Little Falls to Morris, for example; a half man per mile was allowed on that line, but, on the main line, from Northtown Junction through to Staples, one man per mile was allowed, so that in that way you couldn't tell from this table, abstractly, in respect to whether the allowance was made full for terminals, but my impression is that it was for all trackage in the terminals.

Q. Isn't this item, as a matter of fact, a variable item, depending upon physical conditions, to some extent, at least?

A. It is an arbitrary basis that would be variable, but to what extent, no one could possibly determine with mathematical precision. It is like some of the other items, that have been included and must be, included in an estimate on an arbitrary basis, and not by reason of any detailed mathematical analysis that you can give to it.

Q. Now, some banks settle, perhaps at the rate of one to ten, do they not; a ten-foot bank would settle a foot, depending upon conditions; it may settle more than that?

A. Yes.

Q. And no amount of investigation after the road has been

completed can disclose what has actually happened in that regard touching the very elements which you intend to include in item 29, adaptation and solidification? I mean now with anything like arithmetical approximation.

A. Yes, but that doesn't put the question properly. In speaking about embankments settling one foot in ten, or ten per cent, I wish to say this: in estimating the quantities of earth-work on the Northern Pacific, that ten per cent allowance was made in the grading quantities, for the settlement to which Mr. Butler has referred.

Q. Did you use ten per cent uniformly?

A. Yes.

Q. Do you think that would be a fair average?

A. I do.

Q. Probably not right as to any particular point or mile?

A. Pretty generally correct.

Q. So, then, it is not very variable?

A. No.

The MASTER: That was for all embankments?

WITNESS: Yes.

Q. Now, depending upon the conditions, the width of the top of your bank, and the condition of the sides of your banks and slopes, and your cuts and ditches, will vary a great deal, will they not? Some soil or conditions of earth will crumble and cave and wash by freezing and rainfall, and the like, a great deal more than will others?

A. That is undoubtedly true, that some material settles more than others. I should say that, in respect to a very considerable part of the material on the Northern Pacific, a ten per cent allowance for settlement was a very liberal one.

Q. Well, with respect to the whole state, you think it about right?

A. I believe so, yes.

Q. That is, for settlement?

A. For settlement.

Q. Now, there are a great many varieties of railroad conditions in Minnesota, are there not?

A. A great variety.

Q. And this element of adaptation and solidification would vary with the conditions?

A. As I stated, it is entirely an arbitrary basis, the same as contingencies, interest and engineering percentages.

The MASTER: But approximate?

WITNESS: Approximately correct.

Q. Correct on the average, but not in the detail. Some miles, for instance, Mr. Morgan, might take very much more than you have allowed, and some might take very much less, and some nearly to the amount that you have allowed, so that, on the average, in the whole state, you think $1,750 per mile of main-line track would be right for adaptation and solidification?

A. Yes, as a general proposition; and, of course, that has been the way we have been obliged to consider an item of that kind—upon broader grounds than taking into account the fact that some particular point might show unusual conditions.

Q. You think the amounts that you have allowed are, in all cases, with respect to each of the railroad companies' property, sufficient to cover what you intend to include in that item 29?

A. Yes.

Q. One of the elements in that, is the cost of taking the earth from the ditches and the bottom of the dumps and slopes, and putting it up on top and widening out the road-bed, isn't it?

A. One of them, yes.

Q. And that is a very important one?

A. It is, yes.

Q. And really is a part of the construction of the road in that regard?

A. I think it is, yes. I would say this: that had I not made a separate item of adaptation and solidification of road-bed, I should have been justified in raising the units that I had applied covering the construction of the road-bed.

Q. That is, grading and—

A. The grading, and perhaps the ballasting and the surfacing.

Q. And your idea is that this work included in item 29 is of such character that it may properly be said to be as large a part of the construction of the road-bed as the grading of it; it is, in fact, a part of the grading, is it not?

A. I have been making an estimate on reproducing the equivalent of these lines, and I concluded to consider this item separately, which, I believed, was a part of the cost of producing the equivalent.

Q. It very often happens that, in doing the work which you intend to cover by item 29, new material has to be hauled to the various places on the road, does it not?

A. That might be true in some cases; it is not susceptible of any detailed analysis. You can find a great variety of conditions that might be encountered in fulfilling the interpretation of that term. It must be broad in its application, and I would not undertake to analyze it in detail; it would probably be quite as impossible to do that as it is to analyze the item of contingencies in detail and say how much contingent expense shall be assigned to each of the separate items comprising the reproduction of a railroad.

Q. And often it occurs, does it not, in doing the work which you intend to be included in that, that extra gangs are sent over the line for that purpose?

A. That might be possible; as I say, it comprises a great number of thngs, and we might go on and name them all after-

noon in respect to what it might cover, in various details.

Q. Well, I didn't want to do that, or anything that is impossible, but I wanted to develop the truth, if it be the truth, that this includes a great variety of elements depending upon conditions which, on the average, you think is covered by the figures you have given?

A. Yes.

Q. If the variety is very large?

A. In reproducing the equivalent of the existing lines.

Q. And the method of doing the work embraced in that item 29 depends upon conditions and the particular convenience or policy of the road at the time the work is performed?

A. Yes, I think that is so.

Q. Now, in getting at this $1,750, you took one man per mile of track for a period of four years?

A. Yes.

Q. Now, speaking of the main line.

A. Yes.

Q. Is that a well-recognized way of getting at the figure, or is it your own? Is it founded on experience, or is it arbitrary in the sense that you have said that the item of contingencies and this item is arbitrary?

A. It is arbitrary, as I have previously stated, but, considering the maintenance expenses per mile of a railroad, it is quite common; in fact, it is one of the statistics to show the total maintenence expense per mile, and in that way showing a labor account for adaptation and solidification of road-bed is not entirely new, because the accountants of railway companies keep them in that way, and my impression is that, were we to take the average number of men per mile regularly assigned to the Northern Pacific road, for the year it would not average one man per mile in repairs to the track.

Q. Well, now, so that I may not be confused about the terms you have used in this answer in this cost of reproduc-

tion-new that you have undertaken to establish for this Railroad Company, or for any of the railroad companies, you did not include maintenance of the track after it was built and reproduced new?

A. No, I was merely making that as a comparison to show that the allowance is equivalent to what is required for maintenance.

Q. Yes, but not maintenance?

A. Not maintenance, considered in the light of reproducing the equivalent.

Q. No, that is it exactly. Did you make any allowance for interference with the work during the progress of building the road, by reason of labor strikes or troubles or difficulties?

A. No.

Q. Where did you place your personal-injury account? People are apt to get hurt and have law-suits and recover money, and even get some money without law-suits, sometimes, in railroad building; what item did you put that in, Mr. Morgan? It is a matter of experience, isn't it, that there may be personal injuries?

A. Yes, I think that that is so, but Don Quixote fought windmills about three hundred years ago.

Q. Did he fight personal injury cases, too?

A. I didn't want to get into the same kind of a conflict.

Q. What I am trying to get at,—Of course, I know that could not be estimated with certainty, but what I would like to know is whether or not you took that element of expense which does attend almost every large enterprise into account, and, if so, where you have made it appear on your sheet. I am not trying to ask you the impossible, about the degree of injuries, or anything of that sort, at wrecks and personal injuries and break-downs and accidents of different sort, I want to get the pew in this analysis that those things have gone into, if you took them into account at all.

A. I am perfectly frank to say that that was an element that didn't appeal to me as being so important in connection with the reproduction of a railroad that it required any special consideration beyond that it might be covered, in a general way, under the various arbitrary bases which it has been necessary to use in connection with getting up an appraisal of this character.

Q. Do you know, Mr. Morgan, was there anything in the reports of any of the railroad companies to indicate where that item was placed?

A. Nothing.

Q. You don't know whether they charged it to the lawyers or not?

A. I couldn't say.

Q. It wasn't your conception that, if a man was hurt on a train-wreck they should charge that to the law-office, was it?

A. I have answered the question to the best of my ability.

Q. You didn't localize it at all?

A. No.

Q. Or attempt an approximate estimate of the amount?

A. No.

Q. Now, I would like to have you, if you can, show us your sectional map, including Lake Park, of the Northern Pacific road. It is in Becker county. What I wanted to get at was your right-of-way valuation in that place, and I would like to get the number of acres and the amount allowed and the amount claimed by the Railway Company.

Mr. O'BRIEN: In giving the values, Mr. Butler, I wish you would let Mr. Morgan give the railroad report, both for the market value and the use of the multiple.

Mr. BUTLER: Yes, both ways.

Q. I would like a comparison of your own estimate and that reported by the Railroad Company, both as to the market value of the land and the railroad value, that is, the value after the

addition of the multiple, and the acres involved and the money involved.

A. The Northern Pacific Company returned for Lake Park 29.34 acres, at $400 market value, $1,200 railroad value, per acre.

Q. And yours?

A. I returned 29.34 acres.

Q. The same area as theirs?

A. The same area, at $200 and $600.

Q. Now, will you turn to that analysis by counties from which you read in your direct examination, and let us see how you get at it up there at Hawley; that indexed thing that we had from the counties; I had one and you had one, and you read it in direct examination.

The MASTER: You refer to the township of Lake Park?

Mr. BUTLER: Well, I will ask Mr. Morgan whether that 29.34 acres includes all in the township of Lake Park, or does it include only that in the village. I don't know myself.

WITNESS: That includes the right-of-way of the Northern Pacific supposed to be within the corporate lines of the village of Lake Park.

Q. And the corporate lines of that village are not indicated on your sectional map?

A. No.

Q. There is a township by the same name?

A. Yes.

Q. But the corporate limits of Lake Park, (if I may interrupt you just a moment on this) would probably include less of the railroad than does the governmental township of Lake Park?

A. Oh, yes, very much less.

The MASTER: You refer to the village of Lake Park?

Mr. BUTLER: I refer to the village of Lake Park.

Q. Now, I wanted you to tell me, from your detailed mem-

oranda, how you got at the value per acre in that place.

A. The value per acre was arrived at in Lake Park from a personal inspection of the town and of the property; and, as I stated, frequently, in my direct examination, a good many of those values in the towns were arrived at deductively from investigations made in different parts of the state in respect to the cost of lands. My judgment was, therefore, in respect to Lake Park, when considering the report of the Northern Pacific, that there was some land in the town that was worth more per acre than they had turned in; and other land—

Q. More than $400 per acre?

A. Yes; and other land that was worth less per acre than they had turned in, and that, as a whole, $200 per acre would be a fair price to apply to the right-of-way within the limits of the village of Lake Park.

Q. You did not have the opinion of any man having special or peculiar knowledge as to the value of that particular land?

A. No, I did not.

Q. And it was the result of your own judgment, based upon your whole experience, of course, in doing this work throughout the state on all the lines?

A. Yes, and upon the various data that had been turned in to me in respect to village costs in different parts of the state.

Q. In other villages?

A. Yes.

Q. This is the only railroad at this village, I take it?

A. It is.

Q. And your judgment was that if you would divide the Northern Pacific figures by 2, both the market value and the railroad value, that you would get at the truth?

A. I didn't attempt to divide them on any particular given basis. That was my judgment, without regard to the figures—

Q. Well, it does divide just even, you know?

A. It does, in that case, yes.

Q. That valuation was not arrived at by the application of any rule that you used generally on any sales-method or assessment method that you have heretofore described?

A. No.

Q. Now, I am sure that I hold in mind, whether or not, generally speaking, as to agricultural or rural lands, you applied the same rule or principle that we spoke of at such length this morning in St. Paul, as used in St. Paul; that is to say, did you, within your sectional limits, take the assessed valuation and then divide it by the percentage indicating the relation of assessed value to the true relation as it was established in that district, and take that as the market value of the lands, abutting on each side of the railroad?

A. No, we did not. We took only the sales of property.

Q. You didn't apply the assessments at all in the country?

A. No.

Q. You didn't take into account, as a factor in your problem, the relation of assessed value to the true value of the lands, in the country districts?

A. No, only in a general way as it had been established by the state tax commission.

Q. What you did was to find all the sales you could, as you have described, and average the price per unit of area, and assume that that was also the average "true value," as you call it, of the railroad land?

A. Yes. We did, however, go into some towns and take the assessments there, to get the true value, on the assessment basis, in some of the villages.

Q. Could you readily say which villages you did that in and which you did not? I mean readily, without any serious inconvenience or investigation.

A. Yes. We took Detroit as one; we took Wadena as another; Staples, Audubon, Becker, Elk River, Anoka, Big Lake, Wyoming, Rush City, Clear Lake, North Branch, Frazee, Chi-

sago. Now, those are towns particularly along the Northern Pacific.

Q. That is what I meant, along this line.

A. That we considered.

Q. On the assessment basis?

A. On the assessment basis, yes.

Q. That is, you made sections along the lines of the railroad there, and having ascertained what you believed to be the relation of assessed value to market value, you divided the assessed value by the percentage of relationship and assumed that to be the value of the lands in your section outside of the railroad, and then regarded the railroad lands as of the same value—the same true value?

A. The same true value.

Q. Without the factors?

A. That is correct.

Q. Do you think, Mr. Morgan, you have given us all of the places on the Northern Pacific line in the state that you applied this assessment basis to?

A. I think substantially so, yes.

Q. Does Hawley appear on that map?

A. No; Audubon appears on the map.

Q. Hawley is not in Becker county, perhaps?

A. Hawley is farther west.

Q. Now, the data that you have tabulated with respect to Becker county is on this particular page, and that is the page you read from in your direct examination?

A. Yes.

Q. That indicates nothing with respect to the values in the villages in that county, does it?

A. No.

Q. That only applies to outside and agricultural lands?

A. That is right.

Q. And the highest value you have there, in the opinion of

anybody, is $35 and the lowest $15 per acre, isn't it, as the market value?

A. $35 and $15.

Q. Now, can you, without trouble, let us see the sectional map showing Hawley? By the way, didn't you apply the assessment basis in Moorhead?

A. No.

The MASTER: Did I understand you to say that you used the tax commission basis, or a basis that you established yourself?

WITNESS: We had the tax commission basis and the basis that we established ourselves, also.

The MASTER: You used them both?

WITNESS: Yes.

Q. Now, in Becker county, the relation of assessed value to true value, reported to you by the tax commission, as indicated by this tabulation of your data as to Becker county, is 47 per cent?

A. Yes.

Q. Is that the per cent that you used? Did yours correspond with that?

A. No.

Q. Do you know what you did use there?

A. At—

Q. That is, in Becker county. That refers to the county as a whole.

A. Well, we didn't use—

Q. 47?

A. —47, for any village.

Q. Well, no, but—

A. In Becker county.

Q. Yes, I understand you. I had overlooked one thing you told me. The tax commission percentage of relation of assessed value to the true value, included the whole country?

A. Yes.

Q. And would not, of course, as a rule, be applicable to any particular section of the road in the county?

A. It would not.

Q. So, where you used the assessment basis in these villages, you had to establish your own percentage by your own investigation?

A. Yes sir.

Q. Now, give us the percentage which you used as expressing the relation of assessed value to the true value in these Northern Pacific villages.

A. Take the city of Detroit: the tax commission found that the relation between the assessed value and true value of lands, within the corporate limits of the city of Detroit, was 50.9 per cent.

Q. Is that the percentage you used?

A. We found, from our own investigations, that the ratio was 49 per cent; the difference being that we considered only those transfers which were adjacent to the lines of road.

The MASTER: Within the city?

WITNESS: Yes. That produced, on the sales that we considered, an average of $256.60 per acre. Now, the Minneapolis, St. Paul & Sault Ste. Marie line built through the city of Detroit, within the last five or six years, and in their appraisal of this property they put in 32.14 acres at $900 per acre, railroad value, making a total of their acreage of $28,926. We found, from the same acreage, at $275 true value and $825 railroad value, a total of $19,284. The total cost of the right-of-way of the Soo line in the city of Detroit was $17,000, and that was purchased within the last five to six years; so that our figures are in excess of the actual cost to the Soo line. Now, the Soo line was not so advantageously located in the city of Detroit as is the Northern Pacific, and, on that account, we allowed the Northern Pacific $500, market value, and $1,-

500, right-of-way value, for the 28 acres that they own in that city.

Mr. O'BRIEN: What was the Northern Pacific report on that?

WITNESS: The same figure. It so happens that their figure is the same figure.

Q. I intended to ask just for the percentage, Mr. Morgan, in the villages that you have referred to. Now, will you take the next town or village and give me the percentage?

A. I should be very glad of an opportunity to go through these in detail.

Q. Well, perhaps you may have it, if it is desired. My purpose was just to call for that particular percentage; I thought I could do it in a moment, and if the other side desire the detail of it they can have it. Now, take Detroit, for example, where there is no dispute between the Company and yourself, I don't care to investigate how either of you got at it.

A. There is a decided dispute in respect to the city of Staples.

Q. Is that one of the cities that you used the percentage basis on?

A. Yes.

Q. What was the percentage?

A. The percentage in Staples that we used was 43.

Q. What was the tax commission's?

A. 45.

Q. Now, what is the next city that you applied this basis on?

A. Another decided difference in respect to the values turned in was in the village of Audubon, where the Northern Pacific Company owns 30 acres of land, that they turned in at $200 and $600 per acre.

Q. Mr. Morgan, I ask you for the percentage that you used. Now, I don't care to go into details of your method of valua-

tion in these particular places, and if you would just as soon confine your answers to the questions asked, I would be obliged to you, and if the other side desire to go into these details, they have a right to do it and we will not object.

A. Very well. I desire to answer your questions just as you wish it. The ratio in Audubon is 48 per cent.

Q. Have you the tax commission's ratio there?

A. That is the tax commission ratio there.

Q. And yours is the same?

A. Yes.

Q. The next village.

A. Becker; the tax commission's ratio is 43.

Q. And yours?

A. 24.6.

Q. The next place?

A. Elk river; tax commission ratio 23.

Q. Yours?

A. Ours, 41. Anoka, tax commission ratio 61; our ratio 71. Big Lake, tax commission ratio 38. We did not change our figures there which had been previously prepared.

Q. Did you establish a percentage of relation of assessed value to true value there, at Big Lake?

A. Yes, we did.

Q. What was it?

A. 87; we did not use it, however.

Q. You didn't use the assessment method at Big Lake?

A. We did not use the ratio of 87.

Q. Or of 38?

A. Or of 38.

Q. So you didn't use the assessment method at Big Lake?

A. We used merely a check upon our work in that case. Wyoming: tax commission ratio 28; our ratio 60.

Q. Which did you use?

A. We did not use either; it was a compromise between them.

Q. What percentage did you use, if you used that method at all?

A. I can't say that we used either one separately, but from the information received from the two sources the figure that we had established for that point, was found reasonable, within my judgment.

Q. You didn't use the assessment method of getting at the value in Wyoming?

A. Only to verify in a general way.

Q. And you got at that value as a matter of judgment, about as you did at this place I spoke of—Lake Park?

A. Yes; yes.

Q. Now, have you mentioned all the places where you used the assessment basis?

A. No; Clear Lake: the ratio of the tax commission was 20; our ratio was 21.

Q. Which did you use?

A. We didn't use either one, so to speak; our figures were just about the same.

Q. The Railroad Company's and yours?

A. No, my figure.

Q. Did you use that method, the assessment method, at Clear Lake?

A. I didn't take the exact ratios established by either; it was so very close to the figure—

Q. Yes, did you do it on this percentage basis at all, or did you do it as you did it at Lake Park?

A. This percentage was brought out to show the correctness of the theory upon which I had established the value.

Q. Well, now, on what method did you establish the value, on the sales-method,—

A. On my judgment in passing—

Q. —the same as you did in Lake Park?

A. Yes, I said that applied to a good many towns.

Q. Yes, I understand, but I wanted it particularly as to these towns.

A. And these special investigations were made for the purpose of testing out how the opinions were running in respect to these values.

Q. Have you given us all of the places where you used the assessment method?

A. North Branch, 39 per cent by the tax commission; 42 per cent.

Q. Which did you use?

A. We did not use either, because the figures that we had arrived at were very close to the—

Q. I was only calling for the places where you did use this method. I didn't intend to call for all the places where you made the percentage tests to verify former judgments or by which you verified former judgments, but I intended to call for the places that rest upon the assessment method.

A. Well, I don't know that I can separate them in that way. We are about through with them now, that we have taken into account.

Q. I first asked you to give me the places where that method was applied, and then you did, and I neglected at first to ask you for the percentages established, and, now, in asking you for the percentages established, it seems to me (though I am not certain) that you have mentioned some places that you did not at first mention.

A. Possibly that is so, because I may have skipped some in going through hurriedly.

Q. Now, do you think you have given me, now, all of the places that you did use the assessment method, with the percentages that you used, on the Northern Pacific?

A. Yes, I think substantially so, but that does not cover,

by any means, all the investigations that we made.

Q. Oh, I understand, Mr. Morgan, and I didn't intend, even remotely, to imply that it did, but I just wanted the information upon that point. Now, have you the map of Hawley?

A. Yes.

Q. Hawley is in what county?

A. It is in Clay county.

Q. And there is a village of Hawley, which is located in the township of Hawley?

A. There is.

Q. Now, I want to get at a comparison of your valuation at Hawley with the valuation returned to you by the Northern Pacific Company in all of its details;—I think I mean the village of Hawley; if you will give me the acreage I will tell you. 48.76?

A. 48.76.

Q. Now, make the comparison, will you?

A. The Northern Pacific turned in at $400 and $1,200, and which we reduced to $200 and $600.

Q. How did you get at your figures, the same as at Lake Park?

A. The same as at Lake Park.

Q. There is about 48.76 acres?

A. Yes.

Q. And the Northern Pacific's return was $58,512?

A. For railroad value?

Q. Yes. And yours was $29,256—just half?

A. Yes.

Q. Was it true, also, at Dilworth, in Clay county, that you divided the return in two?

A. Yes, it is the same.

Q. And what was the acreage there?

A. 378.17 acres.

Q. What was the Northern Pacific's return—$400 and $1,200?

A. $50 and $80.

Q. Yours was $25 and $40?

A. $24 and $72.

Q. Is it true that, generally speaking, in that part of the state, you divided the Northern Pacific's return by two, substantially?

A. I think a good many places along there we did change the figures, and I would like to explain, a little bit, to the Court why it was done.

Q. Well, I didn't ask about the change of figures. I observe that, in some instances here, you divided the Northern Pacific's return by two, practically.

A. Yes, practically by two.

Q. And I wanted to know whether you did that generally over that part of the state.

A. No; I think it applies, however, through that particular territory where the Northern Pacific is changing its line, and where—

Q. That is from Wadena on to the Red river?

A. From Frazee, you might say, on to the river.

Q. I want to get about the location, Mr. Morgan, of the territory and mileage where you divided the Northern Pacific's return by two, practically.

A. Well, there was no fixed place in respect to that. It was a matter that I would have to analyze in detail to tell you about that.

Q. Well, isn't it generally true that, for a considerable distance, from a point a considerable distance this side of the Red river to the Red river, your figures are just about half?

A. Just about half.

Q. As to the market value and railway value?

A. Yes.

Q. And that includes the very territory where it has recently been acquiring property?

A. Yes.

Q. To change its line?

A. Yes.

Q. I think in your return you did not take into account any of that work at all?

A. I did not, no, only I investigated the question of the cost of lands up there to satisfy myself that there was some justification for reducing the figures turned in by the Northern Pacific Company for those towns. And I would like to state that the Northern Pacific Railway Company had a railroad through that country; it was satisfactory to the people of Minnesota so far as their business was concerned, but it was not satisfactory to the Northern Pacific Company so far as the business of the System was concerned, and, therefore, for certain economies which were necessary for the operation of the System as a whole, the line has been extensively changed through this territory. Now, the prices which the Northern Pacific Company paid for land through that territory were excessive, were very high, and did not represent a normal condition of affairs, because the people were already supplied with the facilities that they needed, and therefore an index of value which would represent what the Northern Pacific Company is actually paying through that territory to-day because it is changing its line, is not a fair criterion to base reproduction cost through that territory under normal conditions; and that is the reason that I changed the figures.

Q. What do you mean by changing the figures?

A. Reduced the figures of the Northern Pacific Company.

Q. The fact that they are paying that out there now, you think would not be a good criterion to go by, because you think the people of Minnesota were satisfied with the railroad that the Northern Pacific had in that territory; is that it?

A. I believe that that explains it.

Q. Now, what were you figuring on, Mr. Morgan, in this reproduction; were you figuring on reproducing the Northern Pacific road so that it would be a satisfactory instrumentality for the conduct of the traffic of that Company that moves over its rails in Minnesota, or were you figuring on the reproduction of a railroad that you think the people would think would be satisfactory for their purposes in Minnesota?

A. I was figuring on the old line of the Northern Pacific. I did not take into account the new line that was being built there; it has not been made a part of my estimate, because it was not completed, and, as I have previously stated in my direct testimony, there must be a line drawn as to where we shall end in these matters that are going on, in the reconstruction and rebuilding of a railroad, from time to time, and that never cease, from year to year.

Q. Did you, from your investigation, form any opinion as to the propriety, from the standpoint of the Northern Pacific railroad, both a local and interstate carrier, in making the improvements that it has undertaken in that district, from a railroad standpoint?

A. No, I did not. It was not for me to decide as to the propriety of that.

Q. No, but in valuing the old road, you thought that the prices it paid for the new road and the same kind of lands in the same vicinity, at the very time that you were making the valuation, was not a criterion to go by?

A. I believe that to be true.

Q. Because you thought that the people of Minnesota were satisfied with that road?

A. I think that that is the case.

Q. And that is the reason that, in that territory, you divided substantially by two the return made by the Railroad Company of its values?

A. I estimated that the figures turned in which were based upon the very high prices that they were paying in that locality would not represent a normal condition of affairs, because it was the same railroad that was crossing and re-crossing its own line, and re-dividing and cutting up the country, and paying far more for its property than would be the case where, perhaps, if an independent and separate company.

Q. It would cost as much to get a right-of-way of the same width to build a road that is sufficient for local business as it does a good railroad that would transport a heavy interstate business, together with the local business, would it not?

A. Oh, I presume that is so, yes.

Q. And in the problem of reproduction, assuming equal width of road, the cost of the reproduction of the right-of-way would be just the same whether you built a good railroad or a poor one, wouldn't it?

A. Yes.

Q. Whether you had light rails on it or heavy rails on it?

A. Yes.

Q. Whether it carried light traffic or very dense traffic, wouldn't it?

A. So far as those items are concerned, it would make no difference.

Q. No, none whatever.

A. But the fact that this new line was being constructed there, it was not being constructed under normal conditions which I could accept as a basis for my estimate.

Q. Now, as a matter of fact, it is true of the Northern Pacific Railroad, and of every other old railroad in this state, is it not, as you indicated to some extent in your direct examination, that from since the time of original construction, there has been a great deal of revision work, rebuilding of the road, correcting curvatures that were objectionable, grades that were too steep, and putting in rails and bridges and the like that

would carry heavy equipment and traffic, whereas, originally, the first plant was sufficient for the traffic as it then existed?

A. Yes, there has been a great deal of that work done during recent years all over the country.

Q. Many millions of dollars undoubtedly spent in Minnesota at that very work, is there not?

A. Yes, I think so.

Q. Now, you were figuring on the reproduction of the roads as they are now at the time that you made your estimates, were you not?

A. Yes.

Q. Now, it is a fact, is it not, Mr. Morgan, that in reproducing a railroad, if you would start to make good grades and easy curves and the best bridges, etc., at the time, you would be able to do it much cheaper than could be done by piece-meal construction, first building a railroad, as all of the companies did in the old days, sufficient for the traffic of that time, and then making them good by correction of grades and curves and supplying good rails for poor ones and strong bridges for weak ones?

A. That would depend a good deal upon the price of materials.

Q. Ordinarily, however, other things being equal, this piece-meal construction would add a very great deal to the cost of building a railroad, would it not?

A. I think it does. I think that it does, and I think that a good many examples of cost that have been given have been those of piece-meal construction; that is, the elements of cost, and they are higher than would be the case where you go out to build a great property like the Northern Pacific property in this state.

Q. At once, in its present condition?

A. Yes.

Q. That is unavoidable, isn't it? And that applies with

truth, does it not, to practically every railroad in this state?

A. Yes, I presume it does.

Q. And the conception that you proceeded on in getting this reproduction-new cost was what you could do it for now if you were to build the railroad in its present alignment and grades and condition?

A. That is the theory upon which the work has been done.

Q. Now, Mr. Morgan, if you will take a summary sheet of the Northern Pacific,—for your grading I want to get at how you established your unit of cost; that is, I want a complete statement from you, so that another engineer reading it will know just what elements you took into account to get at grading cost, for each class of stuff that you have classified the road into. Do you understand my question?

A. Yes. The unit prices that I have employed for the grading are, in my judgment, sufficient to cover the contract price of doing the work, and the additional expense to which the Company would be put in the movement of material and supplies and in the transportation of men to the points where the work was being done.

Q. Is that all?

A. That covers it substantially. There may be some little things that I don't recall at the present time.

Q. What I wanted to get at, Mr. Morgan, was this: Did you separate the problem into its smallest units by allowing so much for contractors' price and so much for other things, either as a lump, or separately?

A. No; I didn't attempt to go into the refinements of saying how much the cost of a cubic yard should be charged to transportation, how much paid the contractor for doing the work, and how much to the movement of supplies; it is too big a problem to be handled in that way. My judgment has been formed in respect to the cost of grading from my own experiences, which cover quite a number of pieces of engineering

work, and from investigations and inquiries into costs on many lines of road throughout the country.

Q. I was not, if you will permit me to say here, trying to get at, or to criticise your figure at all, Mr. Morgan; I simply wanted to get concisely the statement of the method. Now, as I understand it, aside from the contractor's price, there is a cost in hauling outfit and men and material and tools and supplies to the front, and other items which I don't know about, perhaps and I wanted to get at whether or not you took that into—not whether you took it into account, but whether you estimated it.

A. I considered it, yes.

Q. But did you reduce it to a yard basis?

A. I did not.

Q. Or did you figure the amount of overhaul so as to tell us how much would be allowed for what is called over-haul in this railroad grading matter?

A. The estimation of the quantities of earthwork on the Northern Pacific road has been based upon hauling material 1,000 feet free haul and wasting all material that was hauled more than 3,000 feet; in other words, 1,000 feet would be the ordinary limit of wheeler work; 3,000 feet was taken to be the limit of dinky-car work. That, of course, is short, you might say, for the work of a dinky outfit; but the prices which I have established for that work were upon that basis, and therefore we eliminated the very objectionable feature of over-haul, which every engineer to-day is seeking to overcome in the contracts that he lets, because of the squabbles and controversies which have ever been present in almost every contract where the over-haul proposition is used, and it is not a modern method of conducting work and engineers are getting away from that just as fast as they can, and where they are holding to it it is because it is with an old regime, that has had the old schooling in railroads and have adhered to those things which in their

advanced years they don't want to change. But my judgment is that it is but a question of a very short time until we shall have this over-haul pretty much eliminated from contracts, and a great many contracts are to-day made without the over-haul clause in them, and for that reason we considered the treatment of the grading quantities on the railroads of this state could be fairly considered by eliminating it upon the basis that I have established and by applying prices which under those circumstances appeared to be reasonable and fair.

Q. So that your figure of 27 cents a yard for loose earth on this Northern Pacific road cannot be analyzed any further than to say that you think that sum is sufficient to cover everything, including transportation, over-haul, and everything else that can be thought of as likely to occur in grading the road?

A. At best, any engineer can only make an estimate.

Q. I am trying to get at what your analysis of it was, whether there was an analysis, so much for the grading and so much for transportation, so much for over-haul; or whether you just lumped the whole thing together and called it all 27 and say that that will cover it. How did you do it?

A. Oh, no, I didn't consider it that way. The fact that you find an average of 27 cents on the Northern Pacific road does not carry with it the inference that I lumped it all together and said that 27 cents would do it, not by any means. Every individual section on the Northern Pacific road was considered.

Q. Well, I know, but the price considered for each section was not further analyzed, so as to show what there was for over-haul, or transportation, hauling tools and equipment and men forward, or anything of that sort, and extras that the contractors claim; I am trying to get at what you did when you allowed 27 cents on one section or 25 or 21 on another; that was a lump sum to cover everything, was it?

A. That was the sum which I believed would cover all of the expenses attached to moving a cubic yard of material on

that section, as an average.

Q. So that you have no other figures, by way of analysis of these yard prices, that you can give us in this Northern Pacific road?

A. No; as I previously stated, I have not prepared this with the refinements which that would seem to indicate.

Adjourned until Saturday, January 2, 1909, at 10 A. M.

CAPITOL BUILDING, St. Paul, Minn., January 2, 1909, hearing resumed at 10 a. m.

DWIGHT C. MORGAN,
recalled for further cross-examination, testified:

By Mr. BUTLER:

Q. Mr. Morgan, when we adjourned on Thursday, we had been talking of the details of the grading unit price, and I understood you to say, in substance, that in making up your estimate, while you took into account the various elements, transportation to the front and overhaul and the like, you did not undertake to establish a figure per yard for any or all of such elements, but that the various unit prices that you did establish for the various portions of the work were, in your judgment, large enough to include all the items of expense that would enter into the grading; is that about right?

A. Yes, that is about right. I would not like to have the record read that I didn't give sufficient consideration to the extra items of grading, that in making up the cost to the Company I could not, in a general way, show how much I allowed for the extra expense; and my judgment is that the prices which I have put in for this grading are substantially between 1 and 2 cents, on an average, higher than the contract price, and that that 1 and 2 cents would cover the extra cost per yard of doing the work; that is, the extra cost to the Company of

having the work performed. Now, so far as dividing that into its finer details, it probably cannot be done; and I also know that that item would vary; in some places it would perhaps be more, and in other places it would perhaps be less, extra cost to the Company, but as a whole, for the System in Minnesota, I should say that that is a fair amount to allow in addition to the contract price.

Q. Well, what amount in addition to the contract price? you said 1 and 2.

A. Yes. Well, I should say about a cent and a half, on an average.

Q. About a cent and a half in addition to the contract price, you are of opinion, would be sufficient—

A. Yes.

Q. —to cover all the things that cost anything in addition to the contract price?

A. On the basis of a thousand-feet haul, and allowing for the waste at full pay, and borrowing from the sides at full pay beyond the limits of 1,000 feet.

Q. In making up your unit price for ballasting I think you included as an element of cost 62½ cents per train mile for hauling ballast?

A. Yes.

Q. Was that on the average, or was that for each yard? Did you make any different prices for different parts of the road, or was the 62½ cents the price all over the road?

A. 62½ cents was the average cost per train mile for handling ballast.

Q. How did you get at that, Mr. Morgan, what elements did you take into account in making up this 62½ cents as the allowance for hauling and moving a train a mile on the ballast work?

A. In the first place, I had the testimony of Mr. Gray, which was given before the Commission, as to the cost of

running a freight train on the Northern Pacific road.

The MASTER: Comptroller Gray?

WITNESS: Comptroller Gray, yes. He says, on page 5 of his testimony, taking as a unit 60 cents a train mile for local freights. Now, that 60 cents a train mile was arrived at from statements that they drew off for certain months as to the cost of running a train; but, in order to satisfy myself, I made my own investigations, and while, of course, they are necessarily arbitrary, they are made up practically on the same basis as Mr. Gray's figures. The accounts of the Company are separated between freight and passenger business, and taking into account the expenses incident to conducting transportation, maintenance of equipment and general expenses, I drew off, from the statement of the Company, the expenses which they themselves had assigned as chargeable to freight-train service under those headings, and then, opposite that, I placed what I regarded as elements common to a freight train and common to a ballast train, and in that way arrived at my figure of 62½ cents per train mile for running a ballast train. That does not, nor does Mr. Gray's estimate of the cost of running a freight train, take into account maintenance of road and structures. That item is omitted, because, during the period of construction of this road, I have allowed for the ballasting of it under the head of adaptation and solidification of road, but all the other items which would be common are taken into account. I arrived at the item of maintenance of equipment by two different processes, by which we reached the same result, practically. There is this point to be taken into account, that the up-keep of work equipment is probably not so exacting as is the up-keep of equipment used in freight service; so that, taking all of these items into account, as worked out from the cost of running a train on the Northern Pacific from their own statistics, it appears that 62½ cents a train mile, taking into

account the items which I have specified, is an entirely fair price to use for that kind of service.

Q. Will you give us the details of how you got at that figure, the details and figures, the amount that you assigned to each element of cost.

A. Switchmen and watchmen, $379,984.31.

Q. For what—a mile?

A. That is the total cost of the switchmen and watchmen in Minnesota.

Q. I wanted to get at the amount allowed for each element per train mile, if you had it that way. I want to find out how you make up your 62½ cents. There would be so many cents for this and so many cents for that, and so on. If you can give me that, first, perhaps I may not care to get at the way you got at the number of cents for each element, but still, again, I may want to know that.

A. I don't think I have my details worked out, Mr. Butler, just as you are asking for them, but I can produce them later, if you desire to have them.

Q. That will do.

Mr. O'BRIEN: I understand, Mr. Morgan, what Mr. Butler asked you for was how you got at this.

Mr. BUTLER: Yes. Well, I wanted to know how many cents he allowed for each element, so we could add them all up together and get 62½.

Mr. O'BRIEN: If he took the total, instead of taking each one, that is what he did, and is what he is asked for, as I understand it. I suppose that is what you want, isn't it?

Mr. BUTLER: I don't understand just the difference between your point and mine.

Mr. O'BRIEN: Well, he didn't separate switchmen from brakemen, nor didn't separate all the expenses; lumped them and then took his percentage on the total.

WITNESS: The statement from which this was prepared

shows the items properly chargeable to a freight train on the Northern Pacific.

Q. Well, what are those items?

A. Switchmen and watchmen—Now, this is just under the head of Conducting Transportation, and which would be common to a ballast train and a freight train; for example, station furniture would not be chargeable to a ballast train, nor would passenger brakemen, passenger baggagemen, heating and lighting cars, so that there are certain elements in the distribution of the accounts of Conducting Transportation which would not apply to a ballast train.

Q. What elements did you take into account in the ballast-train problem?

A. Switchmen and watchmen, switching, telegraph expenses, freight conductors, freight brakemen, freight-train supplies and expenses, oiling cars, engineers and firemen, engine dispatchers, wipers and roundhouse laborers, fuel for locomotives, oil, tallow and waste for locomotives, other locomotive supplies, water supply, damage to property, stock killed or injured, personal injury, wrecking, superintendence, other expenses.

Q. Are those the only elements you took into account?

A. Those are the elements under the head of Conducting Transportation, yes; and, under Maintenance of Equipment, repairs to locomotives, other equipment expenses, supervision of equipment.

Q. Now, have you told us all the elements that you took into account?

A. Under General Expenses, salary and expenses of general officers, salaries of clerks, stationery and printing "A", stationery and printing "B". Those are the various items that go into the making up of cost.

Q. Now, the figures for each of these items you obtained where?

A. From the office of the comp'roller of the Northern Pacific.

Q. For what year, during what year?

A. For the year, I believe, 1907.

Q. Have you the statement there that he furnished you in that regard? Did he furnish you a statement?

A. He did not; Mr. Gray turned the data over to me.

Q. And you made it out yourself?

A. Well, the distribution was made as between freight and passenger, and I copied the figures from the statement in the possession of the Northern Pacific Company.

Q. Yes, they made a distribution—

A. That is a statement I think that originally was furnished each year to the Interstate Commerce Commission, but I do not think it is furnished now. However, the Northern Pacific Company still keeps up the distribution of its accounts in the same way, and, therefore, I took these figures from the statement furnished me by the Comptroller which showed that distribution.

The MASTER: In giving the items for a freight-ballast train that you have given, were they confined simply to those items of the freight train that was assignable to a ballast train?

WITNESS: Yes.

The MASTER: Or did you intend to include all the items?

WITNESS: No; it was just those items that would be common to a freight train and a ballast train.

The MASTER: Then there would be other items that would be especial to the ballast train?

WITNESS: Yes.

The MASTER: Which you have not as yet mentioned in detail?

WITNESS: Yes, that it true. There are quite a number of items that would not be assignable to either a freight train or to a ballast train that are included under the head of Con-

ducting Transportation, such as the cleaning of passenger cars, for example, is not a charge proper to place against a freight train; nor is the charge of passenger brakemen or passenger baggagemen.

The MASTER: I know there would be a good many items that would apply to a freight train that would not apply to a ballast train—

WITNESS: Yes.

The MASTER: —but there are items that do apply to a ballast train that do not apply to a freight train, and those you have not mentioned?

WITNESS: I have not mentioned those, no.

Q. There are some items that apply generally to freight train transportation which do not apply to a ballast train?

A. Yes.

Q. Now, you did not allow anything at all for the maintenance of way or structures?

A. As I stated, the maintenance of way and structures is provided for in the fact that we are allowing a policing of the road and a care of the road under the head of Adaptation and Solidification of Road.

Q. There is a distinction, is there not, Mr. Morgan, between reproducing a railroad and maintaining a railroad?

A. Yes.

Q. The figures that you have given in your estimates Exs. OO and QQ, are as I understand it, the items of cost for reproduction and not for maintenance for any period of time; am I right about that?

A. Yes, that is probably so; but, at the same time, the very work which these men do in adapting the road is, in one sense, a maintenance, and therefore the road is kept by that process in shape to operate.

Q. Well, it is, in every proper sense, a reproduction of the road, I suppose, or you would not have included it?

A. I am, of course, estimating on the reproduction of the road in its existing condition.

Q. Now, as a matter of fact, ballasting is done, from time to time, and year to year, and for many years, perhaps forever, after the completion of the road, is it not?

A. Yes, ballasting goes on, from time to time, as you state.

Q. Now, let us leave out of consideration the matter that you think you included some place else, and I would like to take your opinion upon what ought to be added to this 62½ cents per train mile, if you did make an allowance, for the maintenance of the way and the structures.

A. I have not attempted to make any analysis of that, and, therefore, I would not probably be able, at this time, to give an opinion.

Q. Approximately?

A. No. I want to say this, however, that the cost of running a freight train, as taken from the statistics of the Northern Pacific Company, shows the cost under the conditions of a very heavy traffic, where there are expensive delays of one kind and another, which adds to the expense of moving the trains. I have taken that as a basis. Now, those conditions would not necessarily prevail in reproducing this road, and those things which go to add to and increase the cost in that regard of running a freight train, would not be met with.

Q. Now, if you were to add the factor necessary to cover the maintenance of the way and the structures, would not that be about 30 per cent of the whole cost per train mile?

A. I have not figured that, as I stated before, I have not estimated that at all.

Q. Neither have you taken into account the additional cost that would result from the ballast trains delaying the traffic, assuming that the ballasting was done after public traffic began to move on the road?

A. I do not think that that is an item that could be figured on—

Q. I didn't mean to ask you—

A. —any more than you could figure on how much the earnings of the property would be during the period of its construction.

Q. Well, did you take it into account? is all I wanted to find out, Mr. Morgan.

A. I should say that it is taken into account by the fact that I have allowed here the current expenses of running a ballast freight train under the conditions of heavy traffic.

Q. Well, there was no separate item or estimate made of that?

A. I have not made a separate item or estimate of it. I think it may, very properly, be included under the cost.

Q. You think it possible that the figures that you have taken into account in these various elements may be large enough to include that thing?

A. Yes.

Q. But you didn't make any estimate of the cost of that thing?

A. Not separately. I didn't think it was necessary because of the very conditions which I have mentioned, of the heavy traffic and the additional expenses.

Q. So then, in this matter of ballasting, Mr. Morgan, your conception, when you were getting at that cost, was not that you were ballasting a road not yet opened to public traffic, but your conception was that you were ballasting a road upon which was moving a very heavy public traffic?

A. No. No, that is not so.

Q. Well, I misunderstood your answers then, apparently.

A. It has not been presupposed that the Northern Pacific in its reproduction would possess the heavy traffic that it possesses today; but the only statistics that were available for

me, as a basis, were those which are prevailing today, because they cover the current rates which are paid to employes in the way of wages, they cover the current prices of materials and supplies entering into conducting transportation and maintaining equipment. Now, if I had gone back twenty years, those prices would not have applied; if I had undertaken to take some individual example, it might not be entirely fair. So that, when I did take the conditions as I found them on the Northern Pacific, it was the best basis that I could get at, but it does not necessarily imply, because I took those figures, that I assumed that the Northern Pacific was under the stress of the traffic that it is handling today.

Q. Well, if the amount that you allowed, the 62½ cents, was sufficient, as a matter of fact, to cover the expense resulting from the delay of public traffic by the ballast trains, then it must necessarily follow, it seems to me, that your estimate was made upon the conception that the ballasting was being done contemporaneously with heavy public traffic.

A. No, I think not. I don't see how it could be construed in that way.

Q. You yourself took the figures furnished you by Mr. Gray which resulted from a division of cost between passenger and freight business, did you?

A. Yes.

Q. That was passenger and freight business, including interstate and local, of both kinds, was it not?

A. Yes, that was the business in Minnesota.

Q. Including the long-haul interstate business, that moved some of it, like the lumber trains would move, two or three thousand miles, and the stock-trains, six or seven hundred miles, practically solid, as well as the local trains, that moved on the branches, and the like?

A. Yes.

Q. Is that right?

A. It is the traffic in Minnesota.

Q. Well, including the cost of moving these interstate trains in Minnesota, this long-haul business?

A. Yes, I presume so. It takes into account the business that was done in the state of Minnesota.

Q. Now, if this division between the freight and passenger-business cost be not right, your conclusion depending upon it, would not be right; isn't that true?

A. The division of expenses between passenger train and freight train is an arbitrary division, of course, but I never have yet come to the belief that there cannot be an intelligent division, intelligent in a reasonable degree.

Q. Well, have you my question in mind, Mr. Morgan?

A. As I understand it, I am answering it; as I understand it.

Q. I would like to have it read to refresh your memory as to what it is.

Question read.

A. Yes, that is true; no question about that, but I believe it can be substantially arrived at and I believe that it has been.

Q. Well, did you examine the division? Now, I will take your opinion as to whether or not Mr. Gray's division on that is right, if you examined it and have an opinion about it.

A. I do not wish to express an opinon in respect to that.

Q. It really is not an engineering question at all?

A. It is not an engineering question.

Q. It is one that you don't feel competent to pass upon as an expert, isn't it?

A. Probably not.

Q. And your figure of 62½ assumed that it was right, at any rate, to take the Railroad Company's admission, which you thought was fair enough to it?

A. Well, I assumed that the Railroad Company knew how

to keep its accounts.

Q. You know, don't you, that there is no harmony between commissions or between the railroads, with respect to dividing passenger cost and freight-car cost?

A. I think I stated it is an arbitrary division in which there is a difference of opinion.

Q. Yes, but your last answer was that you assumed this Company knew how to keep its accounts. Now, with respect to the division of cost between freight and passenger business, it is a fact, is it not, that the Interstate Commerce Commission once directed that to be done and gave it up as an impossibility and is not calling for the information at all lately, and that the greatest diversity of views with respect to the matter exists, not only between commissions but between railroads and their accounting officers on that question?

A. I think there is a difference of opinion in respect to it, yes.

Q. That is, it is regarded as one of the insoluble problems of the situation, is it not?

A. Well, I wouldn't want to say that.

Q. Well, you don't know, do you?

A. Well, perhaps I don't know, but I wouldn't like to say that it is insoluble. I think that the intelligence of the people can solve it in a reasonable degree.

RE-DIRECT EXAMINATION.

By Mr. O'BRIEN:

Q. Mr. Morgan, I want to call your attention to the question of ballast, that you were speaking of just now. I understand that you examined the books of the Northern Pacific Railway Company for the purpose of ascertaining the cost of moving freight trains in Minnesota upon that System, as ascertained by the Northern Pacific Company itself?

A. I did.

Q. And you found that that cost was how much?

A. I did not figure it for the cost of running a freight train; I only took off from their accounts such figures as I found were common to a freight train and a ballast train and used those, so that I did not attempt to get at the cost of running the freight train on the Northern Pacific in its entirety. It was purely and simply a drafting of data which would enable me to make up my cost for a ballast train.

Q. Well, now, you used a blank, when you were testifying, upon which appeared the various items of cost?

A. I did.

Q. Did you ascertain at that time what charges were made direct to freight and what charges were made direct to passenger business, by the Northern Pacific?

A. I did not draw off the passenger statistics at all. They were divided between freight business and passenger business.

Q. But you didn't examine far enough to ascertain what proportion of those charges were in the form of direct charges?

A. No.

Q. For instance, such as conductors upon freight trains and conductors upon passenger trains, or similar items, which obviously may be charged direct to one branch of the service or the other?

A. Yes.

Q. You made no examination of that?

A. I did not.

Q. And you only took into consideration such items as you found to be common to general freight trains and gravel trains?

A. That is all.

Q. Please take the blank (which I understand is a dupli-

cate of the books of the Northern Pacific road) and read all of the items pertaining to freight which you included in your computation and those which you omitted, giving the heading.

Mr. BUTLER: Can't he indicate on the record some way what period that referred to so we may have reference to it more definitely?

Q. Yes. Do you remember for what year?

A. I think it was June 30, 1907.

Mr. BUTLER: For the year ending then?

WITNESS: Yes, that is my recollection.

Q. You made this examination since this case was commenced, did you not?

A. Yes.

Q. Now, commence with the heading Conducting Transportation, "not included." Now, run down the items "Not Included."

A. Station agents, clerks and laborers, station supplies, station furniture, stockyards, proportion of operating expenses of terminals, operation of leased lines, passenger conductors, passenger brakemen, passenger baggagemen, passenger-train supplies and expenses, heating and lighting cars, cleaning passenger cars, damage and loss of freight, damage and loss of baggage, car-mileage balance, hire of equipment, expenses of dining cars, hotels and lunch-counters, operating marine equipment.

Q. All other items appearing upon the Northern Pacific books under the head of Conducting Transportation and charged to operating expenses were included in their entirety?

A. They were.

Q. Now, take the next heading, "Maintenance of Equipment" and give the items not included.

A. Repairs of passenger cars, repairs of freight cars,—because I have included that separately on the cost of repairs per car per mile.

Q. I will come to that, Mr. Morgan, if you will just give us this list now, in concrete form, without explanation.

A. Repairs of work cars, repairs of marine equipment. Under the head of General Expenses I did not consider traffic department expenses, outside agencies, advertising, general office expenses, legal expenses, rents of buildings, tracks, yards and terminals, insurance; and under stationery and printing I did not consider "C", "D" and "E". I did not consider New York office; I did not consider miscellaneous.

Q. Now, with the exception of the items which you say were omitted, all of the other items included in operating expenses, as carried upon the books of the Northern Pacific Railway and charged to freight, were included?

A. Yes.

Q. In their entirety?

A. Yes.

Q. By ascertaining the sum of the items so included by you, and dividing that by the total freight-train mileage in the state of Minnesota, during the period covered by those items, you ascertained the cost per mile of freight trains upon that basis, did you?

A. I ascertained the cost of ballast trains upon that basis.

Q. You ascertained the cost per mile of freight trains upon that basis?

A. Yes.

Q. Upon the basis of the items included by you?

A. Yes.

Q. That amount you took to be the cost of ballast trains?

A. Yes.

Q. Although, as a matter of fact, a ballast train is equipment of a rough kind, is it not, composed of equipment of the roughest kind?

A. Well, it is not as expensive equipment, probably, as a whole; that is, the cars are not so expensive as other classes

of cars that are used, and the up-keep of them is probably not so expensive as is regular equipment; for example, a box car that is suitable to carry grain in, must be kept at a standard that is high, to prevent loss in transit. Those are conditions that would not prevail in connection with the use of a box-car or a ballast-car in construction work.

Q. In making your calculation as to the cost of ballasting the road, if I remember rightly, in the details which you gave upon your direct examination, you included a certain amount for wear and tear of material?

A. I did.

Q. That included the wear and tear upon engines and cars and all material used in that work?

A. Yes.

Q. So that in the items included by you for the purpose of arriving at the cost per mile, you did not include maintenance of equipment?

A. No.

Q. Now, Mr. Morgan, you arrived at the cost of operating the ballast trains in the way you have described, 60 cents per mile?

A. 62½ cents per mile.

Q. 62½ cents per mile?

A. Yes.

Q. That train would consist of how many cars?

A. About twenty cars, on an average.

Q. And each car would contain how many yards of ballast?

A. I estimated that each car would carry twenty yards of ballast.

Q. And the weight of the 20 yards of ballast would be what?

A. A yard of ballast—gravel ballast—would weigh about a ton and a half. You have to take into account that in tak-

ing ballast out of a pit it gets some water with it, some moisture, which adds to the weight of it, and ballast that is transported is a little heavier than the same class of material that is not taken out of a deep pit; that would be 30 tons per car.

Q. And the total net tonnage upon the train would be 600?

A. 600 tons, net.

Q. And the cost would be how much per ton per mile?

A. About one mill and four-hundredths of a mill per ton per mile.

Q. Now you stated that the average price for moving earth, in estimating the cost of constructing the grade, was 27 cents?

A. Taking the individual sections on the Northern Pacific, upon which different prices were applied, according to the character of the work, and carrying each price through in accordance with the total yardage assignable to each price, the general average price for the Northern Pacific is, in that way, arrived at at 27 cents per cubic yard.

Q. Well, did you estimate the amount of yardage of earth at 27 cents, or is that what the average of your estimate amounts to?

A. That is what the average of my estimate amounts to.

Q. Then in making your estimate, each particular section was considered by itself?

A. It was.

Q. And different prices were put upon the different sections?

A. Yes.

Q. And this amount of 27 cents which you give is simply, after you got all through, what you found it amounted to upon the average?

A. That is true.

Q. But you didn't take that average for the purpose of estimating a single yard of earth on this road?

A. No, sir.

Q. You did your estimating in the manner described by you in your direct examination where you gave the sections and yardage and prices used?

A. I did.

The MASTER: Then the 27 cents is based on actual figures, actual facts?

WITNESS: As near as I could get at them. For example—

The MASTER: That is, I mean ultimately.

WITNESS: Yes; for example, take grading up in the Red river valley, where it is plain side-borrow work, most of it, it would not cost so much to do that class of work as it costs to do grading in a rough country; and I utilized the price for the Red river country which I thought would be fair, and for such other sections of the road where the grading was different, I used prices *there* which I thought would be fair; so that there was no lumping of conditions, but it was an individual consideration of the conditions on each of the 21 sections of the Northern Pacific road; and the prices given for those different sections are what I regard to be the fair cost to the Company of performing the work on those individual sections, and that, as a whole, they average about 27 cents per yard.

The MASTER: I understand that was limited to earthwork?

WITNESS: Yes, that was just for earthwork.

Q. But this figure of 27 cents per yard was not used by you in any computation?

A. No; it is a result.

Mr. BUTLER: I have understood that, just as you are bringing it out, Mr. O'Brien, because I kept tally on the different places where you applied different totals per yard.

Mr. O'BRIEN: I hand the Master the table used by Mr.

Morgan in making his computations.

WITNESS: For example, section 1, Duluth terminals, the black figures are the figures of the Railway Company; the red figures are my figures. The Duluth terminal was put in at 27 cents. Take Bald Eagle to Duluth, that was put in at 30 cents on my figures and 35 cents by the Railway Company; so that you see the prices vary; there is 34 cents, 25 cents; 32 cents, 27 cents; 28 cents and 21 cents, 23 cents, 21 cents, 18 cents. And, taking the total cubic yards of earth and multiplying through by the rates, we get the total cost, and by dividing the total cubic yards by the total cost we get the average per yard.

The MASTER: That last item you omit altogether?

WITNESS: Yes.

The MASTER: You get the cost of the actual figures from the conditions as you found them on the various sections?

WITNESS: Yes.

Q. Please explain to the Master what you meant by speaking of the computation and allowance for waste and no computation on account of over-haul; and before you do that let me ask you one or two questions. Theoretically, in constructing a railroad, and as far as possible, the material taken from the cuts is used to make the embankments, is it not?

A. That is true.

Q. And in paying for the construction of a railroad, the material which is placed in an embankment, if taken from a cut, is not measured in the embankment and in the cut both?

A. It is not.

Q. That is, the contractor is paid for making the cut according to the number of yards?

A. He is paid in excavation, measured in excavation.

Q. If the material was measured first as excavated and

then as placed in the embankment, it would be a duplication?

A. It would.

Q. But where the material is taken from the sides of the embankment, what you call "borrowed" material, that must be measured in the embankment?

A. Well, it is measured in excavation there; that is, the borrow-pits are measured up, it becomes a borrow-pit and they measure the borrow-pit up.

The MASTER: The excavation is what is measured, and not the embankment?

WITNESS: Yes.

Q. Now, will you please state what you meant by saying you made an allowance for waste material but no allowance for overhaul?

A. I used a basis of a thousand feet free-haul in making up my prices for doing the work on the Northern Pacific. Now, upon that basis there were some places where all of the material that was to come out of excavation would not be needed within the 1,000 feet, but some of it would have to go beyond, and when you get beyond the limits of 1,000 feet, for ordinary wheeler work the cost of overhaul increases; and, therefore, taking the limits of 1,000 feet, if we had a cut with 6,500 yards in it, 3,000 yards to go one way and 3,000 yards to go the other, within the respective limits of a thousand feet, there would still be left 500 yards of material to take out of that cut which would have to be deposited beyond the limits of a thousand feet, if overhaul were to be considered; but if I had undertaken to figure overhaul in this proposition, I should have been busy yet figuring overhaul without an opportunity to proceed with the other items which go into this valuation. I therefore allowed that material to be wasted at the full price which was fair for doing the work (wasting the material is merely casting it out of the way

near by), and then for the additional material that was needed in the embankment beyond, I allowed the price of doing that work at the same rate. Now, it might appear, perhaps, that that is a duplication, but it is not; because, if, as a rule, we had taken that 500 yards and hauled it, it might have cost all of the expense attachable to getting that material from the side that is necessary beyond the limits of 1,000 feet.

The MASTER: You assumed it could be wasted within a thousand feet, or, at least, at the end of a thousand feet?

WITNESS: Yes; that is, it is wasted near by, it is not utilized; and other material from borrow-pits is taken in to make up the necessary embankment.

Mr. BUTLER: May I ask him a question there, Mr. O'Brien?

Mr. O'BRIEN: Yes, certainly.

Mr. BUTLER: As a matter of fact, Mr. Morgan, are there not many places found, as a practical matter, where no place to waste this material not needed, within the 1,000 feet can be found, as near by as 1,000 feet, without interfering with private property or means of drainage or other things?

WITNESS: You would find exceptional conditions, of course. There are exceptional conditions to be encountered, but they are not sufficient to characterize the whole proposition. Now, in speaking of a thousand feet, I am only speaking of work that is done by wheelers. There is work that is done by "slips," as they call them, where the haul is not so much as that, and in making up our estimates of the grading quantities we have only taken into account as wheeler-and-scraper-work, excavation that was less than 10,000 yards in the cut, because where you get beyond 10,000 yards, it is profitable, very often, to put in a steam-shovel, and, under the modern methods of handling work, steam-shovels are moved over the country in every direction, and the fact that your railroad is not there does not necessarily interfere with getting the steam-shovel there; and steam-shovels are cut in

and moved across the country roads to get at particular pieces of work. Now, it would depend upon the extent of the work whether it would be a large steam-shovel that would go in or a small one; and where a steam-shovel would go in we have allowed 3,000 feet free haul and wasted after that.

The MASTER: You said at the usual rate, as I recall, after a thousand feet up to 3,000 feet, the haul was allowed at the usual rate. Did I understand you to say something of that kind?

WITNESS: Well, in cuts exceeding 10,000 yards, we made the free haul 3,000 feet; and that is where you would use steam-shovels. We made the haul 3,000 feet free haul instead of a thousand feet, and our prices are to cover the free haul of 3,000 feet, where you put in a steam-shovel and use dinky cars.

Q. What I wanted to bring out, if I am right, was that you measured this excess material as waste, and then measured the material in the embankment outside of the limits, in addition to the measurement of this waste?

A. Yes.

Q. And you did that as an equivalent for the overhaul?

A. I did.

Q. Now, in your judgment, does that method of computation give an ample equivalent for the charge referred to as overhaul?

A. It does.

Q. Mr. Morgan, the task which you set to yourself was to ascertain the cost of reproducing the Northern Pacific Railway System in Minnesota (that is, the physical properties belonging to that System) in their present condition, was it?

A. The cost of reproducing the physical elements as they now exist.

Q. As they now exist?

A. Yes.

Q. Of necessity, that problem includes considerable estimation, does it not?

A. It does.

Q. And, for that reason, you made an allowance of five per cent for contingencies?

A. I did.

Q. In an engineer's estimate of the cost of a projected work, many contingencies must be considered, must they not?

A. Yes.

Q. And your estimate as to the cost of reproducing this road is only different from an engineer's estimate of a projected work in that you have the completed work actually before you for measurement and examination?

A. That is correct.

Q. The result is that many of the contingencies which exist for a work which is entirely in the future are eliminated?

A. They are.

Q. The character of the soil to be encountered is capable of ascertainment, is it not?

A. Yes.

Q. But when it comes to the question of storms or earthquakes or fires or railway accidents, you can determine them with accuracy no more than you could in the case of a projected work?

A. No, I think not.

Q. Nor could you determine what proportion, for instance, of the personal injury accidents or damage to right-of-way, during the course of construction, would be borne by the contractor or borne by the Company?

A. No.

Q. That there would be some unforeseen circumstances is, of course, entirely probable?

A. Yes.

Q. And so you have allowed five per cent for such contingencies?

A. I have.

Q. And you think that is ample?

A. I think it is fair.

Q. For the engineering expenses, you have allowed 4½ per cent, I believe?

A. I have, yes, for engineering, superintendence and legal expenses.

Q. I now call your attention to Complainant's Ex. 13—Gray, as of the date of April 30, 1908, Cost of Construction; the total construction cost shown upon that exhibit is $309,656,426.33.

Mr. BUTLER: That is whole line, I suppose?

Mr. O'BRIEN: That is the whole line.

Q. Of course I am not now referring to equipment but to construction. And of that amount it is claimed that $65,610,825.92 was expended prior to September 29, 1875, and the Company was able to furnish no details as to that; so please deduct that amount from the total construction. If that is deducted it leaves a balance of $244,045,600.41?

A. It does.

Q. The first item in the detail appearing on Ex. 13—Gray is engineering, $3,873,263.16. Will you please state what percentage that is of the total cost of construction, less the cost of construction prior to September 29, 1875?

A. About 1.7 per cent.

Q. In estimating the value of the lands of the Northern Pacific terminals, you say you made no addition to the value, as arrived at by you, because of the strategic position or value of the lands?

A. No direct consideration of that problem; it so happens, however, that of the right-of-way which has recently been acquired by some of the lines, the property possessed a strategic

location, and the railway companies paid, of course, higher for that land than though it did not possess those peculiar qualities. For example, take the map on the wall, of the city of St. Paul, which is sheet No. 1. All of the property which has been purchased within the last two or three years by the Northern Pacific lying to the east of the union depot property and against Dayton's Bluff, possesses a strategic value.

Mr. BUTLER: Is that what is called the Commercial street purchase?

WITNESS: Yes, that is the Commercial street property. And in arriving at our multiple, proper to use for railway property, because the Northern Pacific Company paid 2½ times the "true value" of that land I did not exclude it, but I included it in making up my general multiple for the city of St. Paul. Now, the effect of that directly may be shown from property within the red line belonging to the Chicago, Burlington & Quincy. They own 111 acres of land in the city of St. Paul, which extends from Third street to the river, and along the bluffs of the river to Pig's Eye. The cost of reproduction turned in by the Chicago, Burlington & Quincy, in respect to their lands, was raised 83½ per cent by the multiple which I have used, as based upon the assessments, raised the "true value" and multiplied again by how much the railway companies pay on an average over and above the true value of property. Now, another illustration is the Soo line, which comes down through here (pointing) and which possesses a strategic location. They did not pay so high, in proportion to the "true value" of land, as the Northern Pacific did, but we are allowing them 1¾ times the true value of lands, which is for the property that they have purchased in the city of St. Paul, in excess of what they actually paid. They paid about 1.4 times the "true value." Now, as another illustration, (which I did not recall the other day)

is the Boom Island property of the Wisconsin Central, in the city of Minneapolis. That property was assessed for $20,000, which is about 52 or 53 per cent of its "true value," based on the assessments in the city of Minneapolis. The Wisconsin Central purchased that property for $200,000, or about eight times what its "true value" would be; and that was because that property was peculiarly valuable for railroad purposes, more so than it would be, perhaps, for any other purpose. Now, it so happened that, in considering the terminal properties in the city of St. Paul, these examples come in, and in that way the strategic value might be considered to be included, but it is a matter which I could not separate one from the other. But what I want to explain is that these exceptional cases have not been excluded in arriving at my figures, but they have been taken into account, and because I believed that we ought to take them into account in arriving at the reproduction cost.

Mr. BUTLER: The Wisconsin Central purchases on Boom Island were made how many years ago? It is about eight, isn't it, Mr. Morgan, seven or eight?

WITNESS: In 1900.

Mr. BUTLER: Were those purchases made under cover? You know what I mean by that.

WITNESS: I understand. I couldn't say as to that.

Mr. BUTLER: Do you know as to the other instances that you have mentioned, of property having a strategic value, whether the purchases were made openly or under cover?

WITNESS: I have the exact figures in respect to the Northern Pacific, and I have the exact figures in respect to the Soo.

Mr. BUTLER: As to what was open and as to what—

WITNESS: As to what it cost.

Mr. BUTLER: Well, you misunderstood my question. I

wanted to know whether you knew whether the purchases of the Northern Pacific at Commercial street, and the Soo purchases to which you have recently referred in this explanation, were made openly for railroad purposes, or whether they were made under cover, or whether part under cover and part after discovery that the railroads wanted it.

WITNESS: Well, I think from the rapidity with which the value of property increased along Commercial street that somebody knew about it very quickly.

Q. Now, Mr. Morgan, you have felt that, in arriving at the reproduction cost of these lands, it was necessary for you to take into consideration the fact that the general situation of the city and surrounding country is as it is at present?

A. Yes.

Q. And that property owners along Trout Brook and under the bluffs, along the line of the Omaha towards Mendota, realized the adaptability of those lands for railroad purposes?

A. Yes.

Q. And that if the purchase of those lands was to be made at this time, you assumed every element going to enhance the price of those lands would be entirely capable of ascertainment and must be taken into account?

A. Well, of course, I have had to take the practical examples that we have had as a base to work upon.

Q. I know, but I say you assumed that all those things would be taken into account, did you not?

A. Well, that had to be assumed, from the fact that the examples we had did have some of those special conditions in.

Q. Yes, and in ascertaining this reproduction cost, that is, in determining upon the multiple to be used by you, you arrived at the multiple used by you from the actual transactions of the past six years, or five years?

A. Five to six years.

Q. As a matter of fact, (calling your attention to the Trout Brook region,) there is nothing in the character of those lands which make them desirable for the operation of railroads, in and of themselves, is there?

A. Well, I cannot say that it is especially so; it might be so from the view that the roads are there to-day.

Q. Well, but isn't this the case, that the fact that the ravine running along Trout Brook exists affords an inlet for railroads to the city of St. Paul?

A. Yes.

Q. And if that ravine were not there and the line of bluffs was continuous, that inlet would not be afforded; isn't that the condition?

A. That is true.

Q. But in and of themselves, those lands are no more valuable for the operation of railroads than they would be if the city of St. Paul was situated upon a plateau, without any ravine?

A. No; I have not wished to consider that the location of the railroads in that particular section of the city is the only place in St. Paul that you could build a railroad.

Q. But what I mean is this: if, instead of the bluffs and ravines upon which the city of St. Paul was built, there was a gentle, ordinary rise from the river to the surrounding table-lands, the lands so situated would be just as valuable for railroad purposes as this ravine, would they not?

A. Yes.

Q. But the ravine being there, affords an opportunity for the construction of railroads at a greater economy than could be had if it was necessary to grade through the bluffs; isn't that it?

A. Yes.

Q. Take, for instance, the Omaha road, the track leaving

the union depot and extending to Lake Elmo; now that road could be constructed on a straight line through the high bluffs constituting Dayton's bluff, could it not?

A. Yes, at a large expense.

Q. I say that would be a tremendously expensive transaction?

A. Yes.

Q. The ravine formed by Trout Brook gives an opportunity for that road to be constructed at a reasonable cost?

A. Much cheaper.

Q. So that that gives those lands a value for railroad purposes?

A. Yes.

Q. Except for those purposes, the lands along Trout Brook would be of practically no value, wouldn't they?

A. Yes, that is probably so.

Q. The result of that is that the situation of the lands along Trout Brook is such that while they are available for the construction of railroads, they are practically available for no other purpose?

A. Yes.

Q. I am not sure that I understand the method adopted by you in the city of St. Paul for the purpose of arriving at the true value of lands. Will you please state whether or not you applied what you have described as the sales-method to each particular division of that road shown by you upon the maps exhibited here?

A. I have considered the sales in each individual appraisal section of the Northern Pacific in the city of St. Paul, and I have also considered the sales of property along the appraisal sections for all of the railways in the city of St. Paul, property adjacent to each of the different lines that come in.

Q. In other words, you ascertained the relation which the

assessed value of lands within each district established by you bore to the selling price of lands within that district?

A. Yes, where it was possible to do so; there were some outlying sections where it was impossible to get the sales, but take the case of the Northern Pacific, where it was possible to get sales as an index, represents about three-quarters of the value of the total right-of-way of the Northern Pacific.

Q. And can you make a statement of what the ratio was in each section of the Northern Pacific, from your own investigations?

A. There was quite a variation in the ratios in the different sections along the Northern Pacific, but when those sections are considered as a whole for the city of St. Paul, that is, when those sections are considered as a whole along the Northern Pacific railroad in the city of St. Paul, we got $6,032,205.94 as reproduction cost. Taking the 60 per cent which we adopted, we get $6,138,304.87. So that, while these individual appraisal sections may show a wide range, at the same time, considering the Northern Pacific property as a whole in the city of St. Paul, our sixty per cent gives us more than we would have obtained had we used the sales in the individual sections.

Q. You ascertained the true value of the lands of the Northern Pacific in each of the sections or divisions established by you by the sales-method?

A. Yes.

Q. The aggregate of that amount was raised by the addition of the multiple .75 per cent?

A. It was.

Q. And the aggregate result was $6,032,205.94?

A. Yes.

Q. Now, if you took the aggregate assessed value of those lands, assuming that each particular tract of the railroad land was to be assessed at the same price at which the land im-

mediately contiguous to it was assessed, then found the aggregate value of that assessment, and assumed that that aggregate assessed value was 60 per cent of the true value, what sum would you find as the true value of the lands, considered in that way, with the same multiple added as in the former case?

A. $6,138,307.83—a difference of about one and two-tenths per cent, by the two processes.

Adjourned until Monday, January 4th, at 10 o'clock A. M.

CAPITOL BUILDING, St. Paul, Minn., Monday, January 4, 1909. Hearing resumed.

DWIGHT C. MORGAN,
recalled on behalf of Defendants, testified:

By Mr. O'BRIEN.

Q. Go on.

A. I would like to make one or two corrections in my testimony of Saturday, in which I inadvertently used wrong figures in respect to the results that would obtain by considering the individual sections along the Northern Pacific. I stated, Saturday, that the cost of reproduction, according to the actual sales in these various appraisal sections along the Northern Pacific, would amount to $6,032,205.94, and that, using the 60 per cent basis, it would be $6,138,307.83, making a difference of about one per cent. I should like to correct those figures to read as follows, and I wish to make it entirely clear to the Master how I made that mistake: I took into account, inadvertently, section 2 of map 1, which comprises the St. Paul union depot property. I would therefore like to restate those figures, excluding that section, which shows that if I had taken into account the individual sections along the line of the Northern Pacific it would have produced a reproduction cost

of $4,546,549.32, and that using the assessment basis of 60 per cent it would have produced $4,459,599.79, which is a difference of about one per cent.

Q. Now you wanted to make some corrections about ballasting?

A. Yes. I further stated, in my testimony on Saturday, in connection with the cost of running a ballast train, that I had included the item of switching under the head of Conducting Transportation. Now, that switching charge is a connecting-line balance, and my pencil-mark had become nearly obliterated, and in that way I stated that that had been included, but it was not included, because it is not common to a ballast train and a freight train.

Q. Have you a statement of the total amount of sales considered by you upon property contiguous to the Northern Pacific right-of-way and terminals in the city of St. Paul and included within the divisions which you have shown us on the various maps?

A. I have.

Q. What did those total sales in that property amount to? And I understand that these sales were all within the past five years.

A. $649,222.

Q. What was the assessed value of the lands so sold, in the aggregate?

A. $379,898.

Q. And that is what proportion of the selling price?

A. About 58½ per cent.

Q. Now, that illustration, as to the relation between assessed value and selling value, is confined exclusively to the tracts of land contiguous to the Northern Pacific?

A. It is.

Q. And comprises all of the lands so contiguous sold dur-

ing the past five years, as to which you could obtain any information?

A. Yes, where the consideration did not appear to be for a nominal sum; that is, it seemed a fair relation.

Q. What I mean is, you haven't picked particular tracts, but have taken all sales coming within the conditions which you described in your direct testimony?

A. Yes.

Q. Calling your attention to Becker county, the map of which was displayed, what is the general condition of Becker county? is it a well settled county?

A. I have not investigated the population of Becker county, but my observation along the lines of the Northern Pacific there shows that it is fairly well settled up; there are some parts of the county—the northern part of the county is pretty well filled with lakes, but the county is pretty well developed.

Q. What is the population of the village of Lake Park, to which your attention was called in cross-examination?

A. 674, according to the 1900 census of the state of Minnesota.

Q. 1900 or 1905?

A. 1905, I should have said.

Q. Now, the value placed by you upon lands within that village was $200 per acre?

A. $200 for true value, $600 for railroad value.

Q. What was the value placed outside of the village, in its vicinity?

A. It ran from $18 to $24 an acre, as established from the transfers; and from $54 to $72 an acre, railroad value.

Q. Can you describe the situation of the right-of-way in the village of Lake Park?

A. The town was built up on either side of the line; it is a small village.

Q. Did you make a special examination of every village and

municipality upon the line of the Northern Pacific Railway Company?

A. I did; I took particular pains to consider the conditions prevailing at each town, and compared the values which the Railroad Company had placed upon their property in each of the towns along the Northern Pacific. I had that data in front of me in the report which had been submitted by the Northern Pacific, and there was not a town that I did not refer to the data that they had presented.

Q. So that the list of municipalities which you read in cross-examination has only reference to the question as to whether or not the sales-method was followed within those municipalities or not? It does not include all of the municipalities in which you inspected the right-of-way and property and valued it, separately?

A. No.

Q. Each one was inspected and valued separately?

A. Separately, yes.

Q. Where is the village of Hawley situated?

A. Hawley lies to the west of Lake Park, on the Northern Pacific line.

Q. In what county is it?

A. Hawley is in Clay county.

Q. What is the population of Hawley?

A. 724, according to the 1905 census of the state.

Q. The claim of the Railroad Company was that the right-of-way included within the village of Hawley had a market value of $400, and a railroad value of $1,200 per acre?

A. Yes.

Q. And your valuation is $200 and $600 per acre, respectively?

A. Yes.

Q. How did you come to that valuation, and what circumstances are there connected with the village of Hawley which

you desire to explain?

A. Well, as I stated in my cross-examination, the prices which had been placed upon property in these villages was based upon what the Northern Pacific Company had paid for additional property acquired by them where they were changing their line through that section of the state; for example, through Hawley, as I recall, they cut into the town pretty badly, and discommoded a condition which had grown up there since the early construction of the line, and under those circumstances of reconstructing its line, the feeling of the people, I should judge, would be different than though they were a competing line. I had considerable data before me in respect to the costs of property on this new line of the Northern Pacific, and I found that they were paying five and six times, perhaps more than that, in places, for property, than the normal value of it; and under those circumstances I could not accept the figures which those costs represented as being normal, because of the conditions of which I have spoken.

Q. Well, what was the condition of the grade of the new line in the village of Hawley?

A. I think the new grade line through Hawley is perhaps not very much different from the old grade line, except that the new line passes through Hawley in a different direction, and there is quite a cut to the south; and, of course, to accommodate the conditions in that town, everything has got to be moved over to the new line and the whole town re-adjusted to the new conditions. In Winnipeg Junction, a change of line there very seriously alters the situation. The grade is to the north, probably a half or three-quarters of a mile, and very much higher than the old grade. And in the village of Stockwood, the grade is probably 35 to 40 feet above the level of the surrounding country and above the level of the original line. The location of the new line is about the same as the old, and, to provide for the operation of the line during the period of

construction, they built a temporary track to one side which enabled them to construct the new grade. But the people in that vicinity who were enabled to step directly on to the trains, now would have to climb thirty or forty feet to reach the level of the tracks on this enormous embankment which has been built there, one of the greatest embankments I think that has been built in this country by a railroad.

Q. Now, what I want to make clear is that you didn't attempt to use the sales-method through a county, straight through the farm and village lands?

A. Oh, no.

Q. That you did use that basis for ascertaining the value of agricultural lands?

A. Yes.

Q. But as each station and village was come to, special investigation was made and you arrived at your conclusions from your special investigations.

A. Yes, from my special investigations and from comparisons with other places. Now, let's take another town on the Northern Pacific: Here is North Branch, with a population of 672, about the size of that town (Lake Park); the Northern Pacific put in a value there of $100 and $300. Take Anoka, a county seat, with a population of 4,053; the Northern Pacific put in a value there of $300 and $900, as against $400 and $1,200 for the village of Lake Park and Hawley, where there was a population of between six and seven hundred each.

The MASTER: Then you did not use the sales-method in any of the villages?

WITNESS: No. Well, I would like to qualify this: I think we did use the sales-method in one or two towns, for example, Staples. There, I think, we used the sales-method. But the investigations into sales-methods in these outlying towns were made subsequently to having established the true value and the railroad value through these towns, and I did it for the

express purpose of seeing how my judgment compared with the conditions as established through the sales-method; it was purely and simply an additional check upon my way of getting at the cost of reproducing the right-of-way through these towns. I didn't want to rely entirely on comparisons and judgment without some other method, where it seemed to be possible to get it, and, of course, in a work of as great extent as this has been, and covering all the railroads of the state, it was impossible for me to go to all of the towns and verify, but we did go to enough to seem to indicate that we were not very far away from what appeared to be reasonable.

Q. I was going to ask you: When you made your check upon your conclusions, by ascertaining what the result would be under the sales-method, what did you find?

A. We found that the difference was not so important as to justify changes.

Q. A revision of your conditions?

A. A revision of the figures that I have made. Now, I did not pick these towns out in any way at all; I took them haphazard; I didn't care where they were; I took them in different parts of the Northern Pacific, and I didn't know what the result would be, I couldn't possibly tell, I had no information of any kind; it was a straightforward effort to try and prove what I had done.

Q. You referred to Staples; were there some special considerations at Staples that you desired to give the details of?

A. No; the figures turned in at Staples were pretty large, and I thought I would make some special investigations there. I did, and found that, in the case of Staples, my figures were perhaps a little bit low, and I revised them to conform to the special data that we had acquired.

Q. You were about to give some details with reference to Audubon, I think.

A. Audubon has a population of 316. The Northern Pacific

turned in $200 and $600 for its right-of-way through Audubon; and from the transfers established by the tax commission we found about 48.4 per cent as being the ratio between the assessed value and sale-price, which would give $52.02 per acre. We had previously established $75 and $225 for that town, but I did not modify my figures; I let them stand, even though they were higher than the assessed value basis showed.

Q. Wyoming: you were asked about Wyoming, and wanted to give some details.

A. Our investigations in Wyoming showed that the tax commission found a ratio of 28 per cent; we found a ratio of 60 per cent. Their price per acre was $164, and our price per acre was $75. We had previously established $100 and $300, which was a little less than would be established from the ratios, but the change was a slight one, and we didn't modify that any more than we modified the one where the values ran in excess; but it was, so to speak, a general check upon our work.

Q. Defts.' Ex. RR—Morgan shown witness. Will you please explain what that is?

A. Ex. RR is a statement showing the original report of the Northern Pacific Railway Company to the Commission, as of June 30, 1906; Complainant's Ex. 3—Darling, December 31, 1906, and April 30, 1908; cost of reproducing new Defts.' Ex. OO—Morgan, June 30, 1907, present value Defts.' Ex. OO—Morgan, June 30, 1907, comprising the Northern Pacific Railway and for the Complainant's exhibit including its proportional interest in the St. Paul union depot, Duluth union depot, Minnesota Transfer, Big Fork & International, Minnesota & International railways.

Q. Merely put in this form for comparison?

A. Yes.

Q. Now, I entirely forgot to ask you with reference to the valuation of the union depot property, the Minnesota Trans-

fer property, the Duluth union depot and Minnesota & International and the Big Fork. Mr. Morgan, you have made a valuation of the St. Paul union depot, the Duluth union depot, including right-of-way, the Minnesota Transfer, the Big Fork & International Falls railway, and the Minnesota & International railway, have you not?

A. I have made a valuation of those properties, except the Big Fork & International Falls, which is an extension that was not completed and ready for operation at the date of my report.

Q. Then you have made a valuation of the other four properties that I have mentioned?

A. Yes, I have.

Q. You have made a valuation of each of those properties as a separate and independent corporation, have you not?

A. I have.

Q. So that the interest of the Northern Pacific in the union depots at St. Paul and Duluth, its interest in the Minnesota Transfer Railway Company and its interest in the Minnesota & International Railway is not segregated in your report? You have valued the properties of each of those corporations?

A. Separately, yes.

Q. And have you tables similar to the tables which we have introduced in evidence with reference to the Northern Pacific as to each of those properties, separately?

A. I have tables made up, but they cover all of the roads in the state, and I would be obliged to get those tables up in the same way, separately, for each of these several subsidiary lines.

Q. How long would it require you to do that?

A. Oh, I think that could be done perhaps to-day.

Q. I will ask you to do that and have those prepared to present as soon as possible.

A. Yes.

Mr. O'BRIEN: And I propose, may it please your Honor, to simply introduce the tables, without asking Mr. Morgan as to the details in making the valuation as to those properties.

Q. I understand that you made the valuation in the same manner and by the same methods which you have described with reference to the Northern Pacific?

A. I have; the same care has been exercised in respect to them.

Q. And you went over each detail in the same way?

A. Yes.

Mr. HOW: Have you the totals before you, Mr. Morgan?

WITNESS: Yes, I have them.

Mr. HOW: Can you give me those?

WITNESS: Yes.

Mr. BUTLER: The totals claimed by the Company and by yourself, if you have them.

WITNESS: I haven't the totals claimed by the Company, Mr. Butler. This is an estimate, prepared on the same basis as Estimate OO, for the Northern Pacific, omitting the multiples on lands and adaptation and solidification of road-bed. The Minnesota & International, as far as Big Falls, cost of reproduction $3,709,605.15; present value $3,152,757.13. Cost of reproduction of Duluth union depot and transfer $821,544.60, present value, $728,387.67. St. Paul Union Depot Company, cost of reproduction, $2,847,343.59; present value $2,677,453.11. Cost of reproduction of Minnesota Transfer, $2,332,762.49; present value, $2,051,024.98.

Q. Mr. Morgan, upon your cross-examination, you said, in answer to a question, that if you had to prepare yourself to make this valuation again, you might change some of the methods which you adopted at the beginning of this work; will you please explain what you meant by that?

A. I did not mean that I would change the methods. If I stated "methods" I misstated myself; I meant to say that I

would change some of the forms which I had prepared. The gathering together of data,—it is sometimes difficult to foresee just how it would be interpreted by different companies when a specific form was sent to them for returning; there are but one or two of the forms that I would change. But, so far as the methods are concerned in pursuing this work, I feel well satisfied that it is an intelligent way to get at the cost of reproducing railroads.

Q. Mr. Morgan, is there anything else that you would like to put upon the record with reference to this matter of valuation now? I think I am through with you, and if you know of anything else which you think material, or which you would like yourself to have placed upon the record, it is entirely proper that you should do so.

A. I know of nothing else to state to go on the record, except that, in pursuing this work for the state of Minnesota, I have had no preconceived ideas of values; I have not cared where the results led me. The question of the outstanding stocks or bonds of a railroad had nothing whatever to do with it; I did not know, nor take the trouble to look up, what the outstanding stocks and bonds are, but I proceeded with this work entirely independent of every elem xcept those which I believed led me to a truthful and fair consideration of the problem, and that has been my effort in this work. I do not claim that it is perfect; it would be impossible to achieve that, but I do wish to impress upon the Court that my intentions in every respect in this work have been without bias, so far as I am able to judge myself.

Q. There is one question I wish to ask you: You described the sales-method for arriving at the true value of land; now, did you apply that method and ascertain how it would work with reference to each of the roads in the state?

A. In the country?

Q. Well, in the country or in the cities.

Mr. BUTLER: The same method applied to the Northern Pacific as applied to all the others, is that the idea?

Mr. O'BRIEN: Yes.

A. Yes, I applied the same method to all of the other lines.

Q. You applied the same method to all of the other lines?

A. Yes.

Q. So that, regarded in its entirety, you examined a vastly greater number of transfers and assessments than you have stated with reference to the Northern Pacific?

A. I did.

Q. And was it your conclusion that that method did furnish a proper rule for arriving at the true value of the lands as to each of those roads?

A. It was.

Q. And as to the roads in the aggregate?

A. It was.

RE-CROSS EXAMINATION.

By Mr. BUTLER:

Q. Referring to your last statement: In making these figures you have made for the cost of reproduction new and present value, I gathered, from your statement, that you ignored capitalization, wholly, of all the railroads?

A. I didn't consider the question of how much capital was outstanding per mile; it was a question of reproduction cost, and that was what I considered.

Q. Well, then, my statement is correct: you ignored capitalization, wholly?

A. I did.

Q. You ignored original cost, wholly?

A. It had to be ignored, because my investigations along that line showed, that while original cost could be ascertained for some of the lines of recent construction, yet it could not be ascertained for the older lines of the state. The records had

been in some cases lost, in other cases destroyed, and it was a very difficult question to get a line of information in respect to it that could be intelligently considered. I have discussed that subject in my report to the Commission, which I think expressed my views on original cost so far as related to the state of Minnesota. I do not say that original cost cannot be ascertained, in some states, where the roads are of recent construction, or where they are the extensions of great systems reaching out, comparatively few lines. The Northern Pacific and the Great Northern, perhaps, would furnish an example, in crossing through the western states, of comparatively recent construction; so that there may be cases where original cost can be ascertained, and it can be done partially, I think, in the state of Minnesota, but to only a very limited extent, and it was a matter that I could not enter upon beyond making a general investigation as to the possibilities along those lines and satisfying myself that it would lead to a vast expense without probably an adequate return.

Q. Mr. Morgan, I didn't care to go into the general subject of the value of that consideration, or the means of obtaining the information necessary to take it into account; I asked you or intended to, simply whether or not in your work you ignored wholly the matter of original cost.

A. Yes.

Q. You also ignored, wholly, did you not, the matter of value of the railroad properties, considered from the standpoint of efficiency as an instrument for conduct of transportation?

A. Yes.

Q. You also ignored the matter of utility and adaptability of the property for the purposes for which it was created and organized?

A. The property as a whole, yes.

Q. And all of its parts?

A. Yes, excepting in respect to the lands in the cities where certain pieces of property had been bought that incidentally came in in establishing the multiple.

Q. Yes, but in your figures and in the tables that you have furnished us here in getting at that, there was nothing taken into account for adaptability, utility or efficiency?

A. No, not on reproduction cost.

Q. And all that you furnished here is reproduction cost and present value, in the manner you have defined those terms?

A. Yes.

Q. The Ex. OO, to which you referred in giving the figures with respect to the Minnesota & International, the St. Paul Union Depot and the Minnesota Transfer companies, is a part of what is known as your Estimate "B"?

A. It is.

Q. I find this in your report: "Under instructions from your Commission I have therefore prepared two sets of estimates for each of the railway properties which are designated estimate 'A' and estimate 'B'; the tables of comparisons properly belonging to each estimate are correspondingly designated. Estimates 'A' and 'B' are alike in all respects, except that estimate 'A' includes the multiples applied to the lands for right-of-way, yards and terminals. Estimate 'B' excludes the multiples, and the figures inserted are those representing the true value of lands as determined from the investigations made and described in full in this report. This difference in respect to the lands also effects all items which are measured in percentages of the total." That is correct, is it?

A. That is correct.

Q. Now, Ex. OO, as I understand it, also omitted the item for solidification and adaptation?

A. The estimate OO included it, but it was shown separately at the bottom.

Q. You mean the estimate "B"—

A. Yes.

Q. —included, but your Ex. OO took it out of estimate "B"?

A. In the final figures given, yes.

Q. But by note you took it out?

A. Yes, by note it was taken out.

Q. Were those instructions with respect to the preparation of these two estimates in writing?

A. They were not.

Q. When were they given?

A. During the progress of this case.

Q. That is, of this litigation?

A. Of this litigation, yes.

Q. And especially for the purposes of the litigation, was it not, as you understood it?

A. Yes.

Q. Now, can you readily give us the figures with respect to the Minnesota & International Railway Company, the St. Paul Union Depot Company and the Duluth Union Depot & Transfer Company and the Minnesota Transfer Company, on the basis of your Estimate "A"?

A. That would be my Ex. QQ?

Q. Yes, sir.

A. I can. Minnesota & International, cost of reproduction, $3,966,308.93; present value $3,409,460.91. Duluth Union Depot & Transfer, cost of reproduction $910,697.59; present value $817,540.66. Minnesota Transfer Railway, $2,873,283.42; present value $2,591,545.91. St. Paul Union Depot, reproduction cost $4,354,201.66; present value $4,184,511.18.

Q. All these figures include the element of adaptation and solidification, or omit it?

A. They include it; they also include the multiple on lands for right-of-way, yards and terminals.

Q. Referring to your Ex. RR, introduced in your re-direct

examination, that does not show, for basis of comparison, any of the figures contained in your Estimate "A", at all, does it?

A. It does not.

Q. Will it be very much trouble for you to put another column on that exhibit to show what the figures would be on the basis of your Ex. QQ? You see that is on the basis of Ex. OO; now, I would like to have it on the Estimate "A" basis.

A. We can prepare a copy of that and paste it on here.

Mr. BUTLER: That is satisfactory, isn't it?

Mr. O'BRIEN: Well, I think we had better leave that exhibit as it is. I will tell you what I would be very glad to do: I would be very glad to get up, if it can be gotten up, a statement in which the values of the union depot would be included, also, and all of these, so that we will have all of these valuations on one table.

Mr. BUTLER: Then suppose he get up an exhibit which we will mark RR-1, or something like that, and show the information contained on Ex. QQ, together with the valuations of these companies in which the Northern Pacific is interested in some manner.

Mr. O'BRIEN: I think so. I think if we are going to get up another exhibit, we had better get up one in which these subsidiary companies be included.

Q. You can have that for us?

A. Yes, I will have that prepared. It will take probably several days to get that up.

Mr. O'BRIEN: My idea would be a table that would give all of these bases, and then include the total valuation of the subsidiary companies as found by Mr. Morgan, and the percentage of those valuations attributable to the Northern Pacific, upon the basis of their testimony. How would that strike you? so that we would have the whole matter on one table.

Mr. BUTLER: Well, I think that it has been sufficiently stated. This Ex. RR is incomplete in that it does not show

any of the information at all, based on the facts sought to be established in Mr. Morgan's Estimate A.

Mr. O'BRIEN: It is not incomplete as to our claim.

Mr. BUTLER: No, but it is incomplete as to a basis of comparison.

Mr. O'BRIEN: It is not incomplete as to what the State claims in this litigation, because we claim that the interest in the union depot and in the Transfer Company cannot be included in this estimate, and we also claim that the multiple cannot be included. This is intended as a statement of our claim. If you want us to assist in getting up a table which shows everybody's claim, we will be very glad to do it.

The MASTER: It is understood, then, that such an exhibit as has been suggested here, containing the elements that Mr. Butler has made, and also the elements that Mr. O'Brien has made, will be prepared?

Mr. O'BRIEN: Yes, we can do that, in the capitol here. If the counsel will consult with us after we get through, we will try to agree on a table.

Q. In Wyoming you established the percentage of relation of assessed value to true value at 60, and the tax commission at 28?

A. Yes; our transfers were confined to property in the immediate vicinity of the railroad lines through the city of Wyoming.

Q. That is, something like these sections that you have indicated here on these maps?

A. Yes.

Q. And the tax commission took in the whole village?

A. Yes.

Q. That illustrates what you very often found to be the case, did you not, that the percentage of relation varies a great deal, depending upon the size of the territory taken into account?

A. Yes, the same as we found in the cities, and therefore we didn't undertake to make the application of it individually but collectively.

Q. How many sections did you divide the property of the Northern Pacific into in St. Paul?

A. I think there were 36 sections, as I recall now.

Q. In how many of the 36 did you find any sales at all as a basis for your sales-method of valuation?

A. We found it in 21 of the 36 sections, but those 21 sections comprised the more important and the more valuable properties in the cities, so that on those 21 sections we get practically three-quarters of the total value of the right-of-way of the Northern Pacific.

Q. How much of the area?

A. I haven't figured that out.

Q. As much as half, undoubtedly?

A. I wouldn't want to say that. I would be very glad to figure that out.

Q. If you can, readily; a mere approximation will do.

A. I don't want to guess at it.

Q. That is, in the 15 out of the 36 sections into which you divided the Northern Pacific property and defined these sections, embracing lands contiguous on both sides, you found no sales at all during the last five years?

A. No.

Q. So then, with respect to those 15 sections, any or all of them, there was no means whatever of ascertaining whether or not the factor of 60 to the city, indicating, as you claim, the relation of assessed value to true value in the whole city, could be tested?

A. No, of course where there were no sales we could not ascertain it.

Q. Now, can you give us the average percentage of relation as established by you in each section of the 21 sections

where you undertook to make your verification?

A. Yes. On map 1, Section 1, the ratio of assessed value to sale price was 56.8 per cent; on map 1, Section 4, 72.7 per cent; on map 1, Section 5, 88.6; on map 1, Section 6, 48½ per cent; on map 8, Section 1, 54.8 per cent; on map 8, Section 2, 51.2 per cent; on map 8, Section 3, 56½ per cent; on map 9, Section 3, 41.4 per cent; on map 9, Section 4, 19.1 per cent; on map 9, Section 5, 54.1 per cent; on map 10, Section 1, 60 per cent; on map 10, Section 2, 39.6 per cent; on map 13, Section 2, 281 per cent. There we had but one sale. On map 13, Section 4, 69.6 per cent; map 15, Section 1, 51.1 per cent; map 15, Section 2-A, 58.3 per cent; map 15, Section 3, 88.8 per cent; map 16, Section 3, 40.1 per cent; map 16, Section 4, 53.7 per cent; map 16, Section 5, 24 per cent; map 19, Section 1, 63.6 per cent; average 58½ per cent.

Q. In some of these sections, there were more sales to examine than in others?

A. Yes.

Q. You referred to map 13, Section 2, 281 per cent, as having only one sale to go by?

A. Yes.

Q. In these 21 sections represented, I observe that the spread is from 19.1 per cent, the lowest percentage of relation, to 281 per cent.

A. That is correct.

Q. You have not at hand, and cannot readily give us, I understand, the spread of such percentages in each section?

A. No, I haven't worked that out.

Q. But, for example, we will take any one of these sections in which there are a number of sales, the lowest percentage of assessed value to true value might be very, very much less than the highest?

A. Yes.

Q. In the same section?

A. Yes, that is true.

Q. Do you think you would find as great a spread in each of the sections as has been disclosed among the 21 sections?

A. Oh, not in each section, no, I don't think that would be true. I haven't worked that out, but I don't think the spread would be anything like as much as that.

Q. You took into account only the vacant lands that had been sold in each section?

A. No, I took in the sales, irrespective of whether they had improvements on them or had none.

Q. The consideration expressed in the deed, of course, included only the lump sum paid for land and improvements?

A. It did.

Q. Now, suppose you take a typical case. Suppose you found the case of a lot, a piece of land, on which there was a building, for example, and we will say that the sales-price was $4,000; now, in making your tests in each of these sections, how would you handle an item like that?

A. We had the assessed value on the real estate, and we had the assessed value on the improvements, representing the respective 60 and 50 per cent, on the normal assessment basis.

Q. Now, suppose you just take a piece of paper and pick out a hypothetical case there; we will say that the consideration you found in the deed was $4,000; now, divide it up between improvements and land assessments as you see fit.

A. Take a piece of property that sold for $4,000, the normal assessment on that property was 60 per cent of its sale-price; we took the assessment against the real estate, which, we will say, is $1,800, which would give us, on the basis of the 60 per cent, $3,000; if the improvement was assessed at $500, being on the basis of fifty per cent of its true value, it would produce $1,000, or $4,000 as the selling price of the property.

Q. Your underlying assumption was that it had been established to your satisfaction that, on the average, in the cities,

the relation of assessed value to market value of land, independent of improvements, was 60?

A. Yes.

Q. Then you further assumed that it had been established that the relation of assessed value to true value of buildings in the city was 50?

A. Yes.

Q. And then, upon those assumptions, again assuming that the consideration expressed in the deed was right, you figured out what would be the land value, did you not?

A. Yes.

Q. And you defined your sections in such a way (I think to use your own phrase in direct examination) that the railroad property would as far as possible under conditions, follow the line of the center of gravity of value or area?

A. So far as it was possible to do so. There were, of course, some places where it was very difficult to make an equal distribution of property on both sides.

Q. And the result of the application of your method assumes, does it not, that the railroad land in a given section is, on the average, worth as much per square foot as the average value per square foot of the land in the section outside of the railroad, assuming that that average has been established by these sales?

A. Not the railroad value, but that the true value—

Q. The market value?

A. The true value of the land is first what it would be brought to from consideration of contiguous property on both sides.

Q. That is what you call the market value in the forms you furnished the Railroad Company?

A. That is what I call the market value in the forms I furnished the railroad companies.

Q. Now, is it not true that, as a rule, topography in these

sections varies greatly?

A. In some it does. In most of them it does not.

Q. Well, on one side or the other it varies greatly, does it not, in most of them, where the land is valuable?

A. It does on the map, but you take the city of St. Paul, it stands on a great plateau above the river, and the exceptional conditions you find immediately adjacent to the river represent only a small proportion of the total area given over to railway uses in the city.

Q. This map is book No. 1, sheet No. 2; sections 1, 4, 5 and 6 are on this side of the river, the east side of the river, the topography in each of those sections varies sharply, does it not?

A. It does.

Q. It is high on one side, rising in abrupt bluffs, a part of the way, at any rate?

A. Yes.

Q. Now, on this same map, take Section 3 for another example; that indicates a part of the Omaha property, on the west side of the river, does it not?

A. Yes.

Q. That Section 3 takes in the abrupt bluff on the south side, that runs up more than 100 feet high, a sand-rock bluff, covered with brush and the like and into which people have burrowed caves to raise mushrooms?

A. Yes.

Q. And your theory applied to that section, for example, is based upon the assumptions that I have mentioned, to-wit, that the railroad land indicated on that section is worth, on the average, per square foot, the average price of the other lands in the section, arrived at upon the assumptions which I have indicated after which your specimen example of the $4,000 piece of improved land was taken?

A. Yes; it so happens that in each of those sections, how-

ever, the class of property which has been considered above the bluffs has been highly improved property, in most cases, and very valuable property; so that in that way we have taken a very fair measure of value. Now, I would like to explain a little further in regard to that. Take that section there (Section 4) the Omaha Company owns jointly with the Milwaukee property extending through that section; they returned $12,489 an acre.

Q. What did the Milwaukee return?

A. The Milwaukee returned $25,842. We get, according to our process, $40,551. Let us go into Section 5; there we can measure property better on both sides, because the bluff conditions do not prevail to shut us off on the river side. The Omaha asks $12,489; the Milwaukee Company asks $25,842; and we arrive at $14,747.

Q. How did you get at the length and width and shape of your sections? That is, take Section 1, for example, why did you stop at Bench street and why did you go further in the next section, and so on? I want to get your general method, Mr. Morgan. These sections appear to be very irregular; here is Section 1, which is a narrow one, going out into the river.

A. I suppose you mean to the shore-line of the river.

Q. I might take in a block or so on each side, and here more, and here several.

A. Those sections were divided according to the best of my judgment in arriving at what I considered to be fair. The property on top of the bluff, in Section 1, is improved property. It would be entirely unfair for me to go clear over to the court house in that section; I wouldn't think that that would be a fair measure. In Section 4 we had a pretty good property on both sides, we took property here, as far as it went, from the railroad, and we tried to measure equally on this side. We could get this property here, and we measured equally on that side. The reason this is dipped in there, is because that is a

public park and is not assessed; there is no assessment against it. Now, of course it was difficult to get uniformity in respect to these sections, but they have not been made up with any idea of cutting out a particular piece of property because it was more valuable.

Q. No, I didn't mean to imply anything of that kind at all, Mr. Morgan; I didn't mean to imply any purpose of unfairness.

A. I assumed you did.

Q. I want to make it clear on the record that I do not. But now, when did you subdivide into sections, with respect to the order in which you applied your method? did you subdivide into sections before you had tested the values by the sales within the sections?

A. Entirely so; those subdivisions were all made, in the first place.

Q. Before you tested the sales-method?

A. Before we tested the sales-method.

Q. Then, was it about this way: Upon a careful examination of the property, you made up your mind what contiguous property was of like value, as nearly as you could?

A. No, it was purely and simply a question of dividing the property on either side of the road, and the question of like value didn't come into it at all. Those sections were made up before we had any data, before we had the assessments on the property, even.

Q. Now, what was the foundation in your own mind of the definition of each section? I don't mean this map. I mean generally speaking.

A. I may state that we might have drawn a parallel line there (Section 4) and a parallel line there, but it would have divided the small parcels and lots in all kinds of ways, and we would not be able to assign to parts of lots what their assessed value should be, and, therefore, we had to arrange these lines

that would take in full lots and blocks. This map, which is sheet No. 5 of St. Paul, will illustrate more correctly the theory upon which I proceeded. It shows property taken on either side of the Milwaukee line, this in Section 2 being the Milwaukee line. Now, we have tried to divide that property up—

Q. What addition is that?

A. This is going out towards—here is Summit avenue.

Mr. O'BRIEN: Stinson, Brown & Ramsey's, isn't it?

Mr. BUTLER: Yes, Anna E. Ramsey's addition.

A. We have tried to divide the property equally. You see how nicely the Milwaukee line fits through Section 3 of that map, how well it balances in Section 4, how well it balances in Section 2, and balances, as nearly as we can get it, in Section 1. Now, that represents as nearly as possible in a theoretical way, the idea of dividing the lands up into sections; but, of course, with the consideration of all the conditions of a great city, it is impossible to get the position in all locations, that certain locations will gve you.

Mr. O'BRIEN: This map that you now refer to shows the right-of-way of the Milwaukee road through the fifth ward of this city?

Mr. BUTLER: No, it is out by our house there. It takes in the Summit avenue bridge.

Mr. O'BRIEN: Well, it shows it in the fifth ward and before you get to the Summit avenue bridge?

WITNESS: It shows the location of the Milwaukee road from Marshall avenue to Lexington avenue.

Q. Now, those Sections 1, 2, 3 and 4 on this sheet No. 5, in book No. 1, were laid out by you, were they?

A. They were.

Q. And before you had made any test of values by the sales-method in any part of the territory covered by these four sections?

A. They were.

Q. Why did you divide it into four sections? Why didn't you call it 1 or 2 or 3? What I am trying to get at, Mr. Morgan, is, what considerations you took into account when you inspected these properties and blocked out these sections.

A. The map was purely an arbitrary blocking out, and the idea of dividing it up into sections was not so much to consider it independently as it enabled us to perform our work much more conveniently than it did to try to consider it as a whole piece.

Q. Then the length of the railroad right-of-way or terminal lands, in each section, was made on an arbitrary basis?

A. It was.

Q. Wholly so?

A. Yes.

Q. And so with respect to the land on each side of the railroad land in each section, that also was made on an arbitrary basis?

A. It had to be.

Q. There was nothing else to go by?

A. Nothing else to go by. We tried to take in sufficient land to give us a fair index of value.

Q. So that, if you had divided your Northern Pacific up into a little different method, you would have had some sales in each section, wouldn't you? You had three different sections, and there were 21 in which you had some sales to go by, and there were 15 sections in which you had none?

A. Yes.

Q. Now, if you had made your sections a little differently, you could have some sales in each section?

A. Well, I don't know as to that. I wouldn't want to say that it could be done. The question of sales didn't carry weight primarily, in dividing the line up into sections. We did that first.

Recess until 2 P. M.

AFTERNOON SESSION.

Q. Now, recurring again to this map that you selected for an illustration of your sectional divisions, which is book 1 of sheet No. 5, as I understand it, work to get at reproduction cost is based on the idea of eliminating the road, its cuts and its grades, in the first instance, to get at the land value, and then figure out what it would cost to reproduce the land; that is right?

A. To reproduce the property, that is right.

Q. Now, this district here begins with Lexington avenue, on the Milwaukee Short Line, between St. Paul and Minneapolis, and covers to Marshall avenue, divided into four sections, 1, 2, 3 and 4?

A. Yes.

Q. That is outlying property, where the land is suitable for residence purposes?

A. Yes.

Q. The shortest distance between the right-of-way and the boundary of Section 1 is about 200 feet, is it not?

A. About that.

Q. And the longest distance, on Section 1, is about eight or nine hundred feet, is it not?

A. Something like that, yes.

Q. The shortest distance, on Section 2, is about 50 feet, isn't it?

A. About that.

Q. And the longest distance, eight to ten hundred feet?

A. Something like that.

Q. This map is at a scale of 100 feet to the inch, isn't it?

A. Yes.

Q. And, on Section 3, the shortest distance from the right-of-way to the boundary of the section is about 100 feet, and the longest distance about a thousand?

A. 800 to 1,000.

Q. And, on Section 4, the right-of-way is coincident with the boundary of your section—

A. Yes.

Q. —at the nearest point. And the greatest distance is perhaps a thousand feet?

A. Something like that.

Q. Now, if that Railroad Company didn't own that right-of-way, and never had owned it, and that cut—That is new up there, isn't it?

A. Yes, there is a cut up there.

Q. —was filled up, every one of these lots in here would be of greater value, for residence purposes, than it is now, would it not?

A. There might be some more value attaching to it, to property closely adjacent to the Milwaukee line, but our sections cover an area sufficient to overcome that, to a certain extent, as far as is possible and practicable to do so.

Q. Well, in the absence of the railroad, that property which abuts upon the right-of-way and which now constitutes the right-of-way, would be, on the whole, as valuable as any in each of these sections, would it not, for residence purpose or for any purpose?

A. Yes, I think that is so.

Q. And the existence of the road itself, its cut and noise and smoke, etc., disfigures the landscape and makes residence near to the right-of-way objectionable, and, therefore, impairs the value of land?

A. For residence purposes?

Q. Yes. That is right?

A. Yes.

Q. And that is the only purpose that land is suitable for now, isn't it, in the present development of this city?

A. Well, it is a residence district, of course, all through there?

Q. So then your sections taking in what is near, takes in that which is made cheap by the existence of the road itself, and you think that the more remote parts of the section are far enough apart not to be affected by the railroad?

A. Yes, those sections are divided in such a way, and made large enough, to overcome that condition, as far as it was practicable to do so.

Q. But the average of the whole sections would be cut down, of course, by the cheapening of the part that is nearest to the railroad?

A. That might be so. That same condition would apply with respect to establishing the multiple, which also takes into account property that is located in residence portions of the city. Therefore, our multiple becomes greater.

Q. Well, the multiple does not affect the market value of the land shown in your Ex. OO in your Estimate B?

A. No.

Q. I was addressing myself really to the figures in your estimate B, and not taking into account the elements touching the multiple, now, because I don't understand there is a wide difference between you and the companies as to the proper amount of multiple. So that, would it not be true, generally speaking, that this sectional division method that you have used, as applied to lands suitable for residence districts, it would pull down the average market value or "true value," as you call it, in the sections?

A. Considered on the basis of true value?

Q. Yes.

A. I think that is so, to a limited extent.

Q. Varying, of course, depending upon conditions?

A. Well, yes, of course, it would depend upon conditions, but I think to a limited extent.

Q. For instance take the boundary line between Sections 2 and 3, which is Summit avenue, isn't it?

A. Yes.

Q. And that would probably illustrate one condition as aptly (and as glaringly, perhaps) as any. Now, you have no doubt at all, have you, that the existence of that railroad there impairs the value of the land on Summit avenue, on both sides, for some distance away?

A. Well, I should say perhaps it did, for a short distance.

Q. Well, take Section 3, on the east, it would impair all the land shown abutting on Summit avenue on this side of the railroad track very greatly indeed, wouldn't it?

A. Well, it might affect those lots that lie in close here.

Q. I was speaking of Section 3.

A. Oh, in here?

Q. Yes.

A. Well, we have only considered two lots on that side of Summit avenue, but we have gone away down here on the other side in order to get the average.

Q. I understand, but as to that part of it on the east side of the railroad track, in section 3, which abuts on Summit avenue, its value for residence purposes is practically destroyed, is it not, by the existence of the railroad itself?

A. I should say that it was, according to the assessment on lot 7; but on lot 8 the assessment is much greater for a very much smaller area of land.

Q. Does lot 7 abut on Summit avenue?

A. Yes.

Q. And lot 8, too?

A. Yes.

Q. Well, you are going according to the assessment now?

A. That has been my basis.

Q. Well, wouldn't you say, as a practical matter, now, as a judge of values, of real estate in the vicinity, that the value of all of that land in Section 3, east of the railroad abutting on Summit avenue, is practically destroyed, for residence pur-

poses, by the existence of the railroad itself, without regard to the assessments at all?

A. No, I don't think it is. There has been a great deal of building out in that section of the city during the past two or three years, and I don't think that its value is destroyed. Now, there are some people who object to noise, and there are some who do not; and while there may be an effect upon the value of property close to railroads, I think by the size of the sections that we have taken into account, we have eliminated, or reduced to a minimum, the effect which would be produced by the injury to property adjacent to the Short Line in through those sections.

Q. But, Mr. Morgan, some of it is affected and cheapened by the existence of the railroad?

A. Yes.

Q. None of it, on this map, at any rate, is enhanced by it, by the existence of the railroad?

A. No, it isn't enhanced.

Q. Therefore, no matter about the size of your sections, the market value of the land you get at, is seriously impaired by the existence of the road itself?

A. Well, I should not say that it was seriously impaired. I know that it may be impaired to a certain extent.

Q. Now, let us take Portland avenue, in Section 3, Ashland avenue in Section 3, and Laurel avenue in Section 3; the road at that place is in a deep cut, is it not?

A. Yes.

Q. And those streets can't be traveled by reason of the existence of the road?

A. Under their present condition; it is purely and simply a matter of constructing a bridge there.

Q. And paying for it?

A. Yes.

Q. But as it now exists, (I am only speaking of the value

of the land now, and when you made your estimate) those streets can't be traveled at that bluff?

A. That is true; but you take those very areas that you have spoken of, and you will find, within the last three or four years, there has been a very great development, in the way of residences, in that very district.

Q. Well, I wasn't speaking of that.

A. So that it is not made unavailable for residence purposes.

Q. No, but I take it that you concede, Mr. Morgan, that the fact that those streets are not opened over the railroad there, would affect the value of the land, or would you concede that?

A. Well, if there was a necessity for opening those streets, they would probably be opened, and probably will be opened just as soon as conditions justify it.

Q. Well, they are not, and they cannot be traveled, and never were opened since the railroad was there and never were traveled. Now, I want your candid expression of opinion whether or not, in your judgment, that fact does not affect and reduce the market value of the land near to that right-of-way, on both sides.

A. I stated, in the first place, that I thought it did, near to the right-of-way.

Q. And that is true, is it not, as to every piece of land on the map?

A. It might be true in respect to that particular map, yes.

Q. And every other map that shows land available for similar uses, suitable for similar uses as indicated on the map?

A. For residence uses.

Q. That is true, isn't it?

A. For residence uses. On the other hand, we have, of course, divided all property that is made very valuable in the business district, by reason of the fact that it was the pres-

ence of the railroad there itself that made that property valuable, so that there are compensating features to this.

Q. So you concede that, with respect to residence property, there is an error in the work which reduces the market value?

A. I should not want to call it an error in the work.

Q. Well, whatever it is, it doesn't bring the right result?

A. I think it brings a good deal nearer result than though I had closed both eyes and guessed at it.

Q. Well, I guess I will ask you to answer my question, Mr. Morgan.

(Last question read.)

A. I think it does substantially,—nearer than I could get it by any other process.

Q. That is the best way you could think of to get at it?

A. Yes.

Q. Now, you referred, a moment ago, to conditions where the existence of the right-of-way enhanced value of property near by or contiguous.

A. Yes.

Q. And in such a case, your method would not produce the right result but produce an excessive one; isn't that true?

A. It might result in the same way, as you state. It might be perhaps a little too high, in places, but as I say, we have not been considering this problem individually, but it has been considered collectively, and taking these inequalities into account which go one way and another, there is a pretty fair balance struck, which, when we are considering this proposition in its entirety, it seems to reflect the truth as nearly as it can be arrived at.

Q There is no way to compute how much of fault or error there would be on the lands in map No. 1, sheet 5, this one that we have been talking about, is there?

A. I wouldn't know of any.

Q. And in the instances where you think that the value of

abutting land has been enhanced by the existence of the right-of-way, there is no way to compute the amount of error or fault there is in that which makes the excess over the true market value?

A. No, as I stated, if this is to be considered individually it would produce inequalities; as I have stated, from the beginning, that inequalities exist, and that I do not profess that this is perfect, but it appeals to me as being a far more reasonable and accurate way of getting at it than any other process which I have been able to discover.

Q. Now, Mr. Morgan, take it in Section No. 3, for example; the land abutting on Summit avenue, without that railroad there, or with it there, is probably worth ten times as much as land in the same block right across the alley from it abutting on Portland, isn't it?

A. I don't know.

Q. In Section No. 3, you didn't have a sale on Summit avenue to go by, did you?

A. Not that appears on the map.

Q. Now, the northeast corner of Summit and Hamline, wouldn't you say, as a matter of fact, that one lot there abutting on Summit avenue, is worth more than any other ten lots on the west side of that railroad track in that section?

A. I have made no investigation along those lines, and am unable to say.

Q. Don't you know, as a matter of fact, that the market value for the period that you have stated, of the lands on Summit avenue, in that vicinity, has been more than ten times as much per square foot than the market value of anything else on the west side of that track and in that section?

A. I do not know.

Q. Now, if that be the fact, Mr. Morgan, upon your basis of picking out these Short Line lots, some of which are near to the right-of-way in that section, you would get a result ab-

surdly low, would you not?

A. No, I think not.

Q. What would you get as to that section?

A. We have taken the value of all this property, computing from here (indicating in section 3) to measure that particular section. If you wanted to divide it up along street lines, we would have taken the property here to measure that (indicating), the property here to measure that (indicating), the property here to measure that (indicating), the property here to measure that (indicating), on an average. Now, it is the average of all of those individual properties, taken together, by which we produce the average value through that territory.

Q. Testing your general percentage of 60, which you have assumed for the whole city, by any data that are obtainable as to lands in Section 3, there would be this enormous fault, would there not, because there is no Summit avenue property taken into account in your sales-method?

A. The assessed value of all the property is taken into account.

Q. You don't understand my question. You have just explained that, and I understand what you mean by it. In these various sections you have taken the sales-method in each section to test the correctness of the 60 per cent for the whole city?

A. Yes.

Q. Now, in the problem as to Section 3, because you think none of the high-priced lots come in at all in any sales that you have found, your test would not at all be satisfactory, would it?

A. As I stated previously, the individual sections will not show it.

Q. So your idea is, that as to the individual section here, it may be plainly demonstrable that the true value of your right-of-way is too low in a given section?

A. It may be, individually, I know that; I have appreciated that from the beginning, and it was that very fact which made me adopt the 60 per cent as a basis, considering the proposition on broader ground.

Q. And so it may be as to each of them, each of the sections, upon close scrutiny, that it may be plainly demonstrable that the true value that you fixed is either too low or too high?

A. That may be true, *individually.*

Q. "Individually," but your idea is that, on the assumption that this 60 per cent is right, on the whole you must be right?

A. I assume that that is nearer right than any other method that I could devise for getting at the cost of reproducing these lands; and, as I have already evidenced, in the direct testimony, I have given examples of the exact cost to the railway companies for their lands; I have given the results which the sales-method produces in respect to those lands, and I have shown also what the railroad companies claimed for those lands. In each case the sales-method has exceeded what the railway company actually paid, but it has been less, by several hundred per cent, than the railroad companies have claimed for the property, although we had the actual cost before us, which they might also have used, as I did.

Q. When you say the "actual cost" you mean in these isolated instances of purchases, of detached fragments or pieces, that have been made during the last five years in these cities, do you not?

A. I am speaking of the right-of-way which was purchased by the Chicago, Rock Island & Pacific, consisting of over forty acres; I am speaking of the right-of-way of the Minneapolis, St. Paul & Sault Ste. Marie, consisting of over forty acres; I am speaking of the right-of-way of the Chicago, St. Paul, Minneapolis & Omaha, in the city of Minneapolis, consisting of over twenty-five acres; I am speaking of the right-of-way

purchased out here in the Midway district, near the state agricultural college, consisting of some forty odd acres.

Q. Are those the only instances that you refer to as testing by related costs?

A. Those are the principal instances.

Q. Practically all of them, is it not?

A. And I also have taken into account the property lying down against Dayton's Bluff, which was recently purchased by the Northern Pacific.

Q. Those are about all the instances?

A. Those are all of the instances of large amounts of property which have been bought. Of course we have taken other cases into account where property has been bought by the railway companies.

Q. Yes. From your form of expression in your testimony, a moment ago, it might be misleading that you had taken into account the cost price of all of the right-of-way of the railroads, and I wanted to call out simply what you did take into account. How many railway divisions did you make of the Northern Pacific property in Minneapolis, and how many did you find sales in, within the last five years?

A. I have not prepared my data in respect to sales in the individual sections in Minneapolis; the work that was done there was done through the tax commission, and we did make some investigations, but I haven't—

Q. What I wanted to get at, Mr. Morgan, (some approximation will suit my purposes if you haven't the exact figures) how many divisions are there in Minneapolis, and can you tell us how many divisions there were that there were no sales in at all, if there were any such?

A. I can't tell you now. I can work that out and furnish the information.

Q. There were some that there were no sales in?

A. I couldn't say as to that.

Q. And as to Duluth?

A. I would have to work that out, also.

Q. You can't tell whether there were some others that had no sales in?

A. I can't at the present time.

Q. Now, generally speaking, in the city of St. Paul, with respect to all of the railroads, could you tell us how many divisions you made and in how many there were no sales at all to go by?

A. I haven't made those computations at the present time. I can do so.

Q. I would like, if you can, to have you give me that information on a memorandum, that it may be stated into the record.

A. Yes.

Q. As to all three cities, and as to all the railroads, and especially as to the Northern Pacific.

Mr. O'BRIEN: You have it, as to the Northern Pacific in St. Paul, I think.

Mr. BUTLER: Yes, but not as to the other two cities.

Mr. O'BRIEN: As to the Northern Pacific can't you give that information without any delay, the number of divisions in Minneapolis of the Northern Pacific?

Mr. BUTLER: And the number that have no sales in them at all?

WITNESS: The Northern Pacific was divided into 39 sections in the City of Minneapolis, and sales were found in 31 of the 39 sections.

Q. In Duluth?

A. I haven't worked it for Duluth.

Q. Now, out in the country towns and cities and villages, where you made tests of this sales-method, were there any sections in any of the cities or villages (when I say cities I mean other than the three large cities) where there were no

sales in any section to go by?

A. No, I think not. We found sales adjacent to the line of road, and we didn't try to divide it up into sections at all.

Q. And is that also true of the rural lands?

A. We didn't consider the assessment method in the rural districts but took the transfers. That was based upon the sales, upon the transfers of the property.

Q. In your re-direct examination by Mr. O'Brien, something was said about the lands in Trout Brook valley, and I suppose what was said about those lands, would also apply to the lands in the Phalen Creek valley and the low lands under the bluffs up and down the river, would it not? That is to say, you were examined to some extent as to whether these lands in the Trout Brook valley had any special value, in and of themselves, and for railroad purposes; I have the impression that you said they had not; at any rate, I want to find out what you said about the Trout Brook.

A. I said that from the standpoint of reproduction cost, I could not consider the peculiar adaptability that might possibly exist as to those lands, and—

Q. And that was for the reason that you could, by the expenditure of a sufficient sum of money carve equal areas out of Dayton's Bluff?

A. Yes.

Q. But the fact that it would cost a great amount of money to make such cuts and secure suitable grades, would give to the land that was available without such great expenditure, a peculiar and special value and adaptation for railway uses, would it not?

A. Yes, which I could not solve, and which I did not think belonged under the head of reproduction.

Q. Now, you made reference, in your re-direct examination, to a tract of land owned by the Burlington road; that abuts on the river, in part, at least, does it not, below the union depot?

A. Yes.

Q. And includes riparian rights?

A. Yes.

Q. For a long distance?

A. Yes, quite a distance along the river.

Q. And up near the union depot; and South of the union depot yard, the Milwaukee road has quite a large area of land for its tracks, either main line or yard tracks, abutting the river?

A. Yes.

Q. And that land has been made, as a matter of fact, in the river, within the last six or seven years, at the time of the readjustment of the depot, has it not?

A. Well, I think it was made a little earlier than that.

Q. Well, about 1890, wasn't it? But it all came, of course, within the harbor lines established by the companies?

Mr. O'BRIEN: About 1900 that was done, wasn't it?

WITNESS: Yes, somewhere along there.

Q. And that, viewed from the standpoint of utility and efficiency, as an operating tool and adaptability, is among the very best railroad lands in this city, is it not, right where the river flowed eight years ago?

A. Yes, they are valuable lands, there is no question about that. I have recognized that fact by increasing my valuations as I approached the river.

Q. That is some of the very most valuable land in the whole city, for railroad purposes, is it not, and it is so valued by you, indeed, its reproduction cost?

A. Yes, I considered the property along the river there as valuable property.

Q. Now, take the Burlington instance, that you cited yourself, the riparian rights in front of that land are of very great value; that situation there lends itself readily, does it not, to the development of just such land as the Milwaukee has

already developed a little farther up the stream?

A. It might, yes.

Q. It can be graded very cheaply?

A. I do not know that the Milwaukee owns any land on the river side.

Q. Yes, they own that there.

A. I don't think the Burlington owns any land on the river side.

Q. If it doesn't, then the Milwaukee owns the front there?

A. Yes.

Q. Then down by the fish-hatchery, in the elbow of the river?

A. Yes.

Q. And the riparian rights there are of very great value, and were not taken into account at all, were they?

A. We didn't have a series of property to produce an increase of value therefor, as we did farther up, at the union depot, where property was owned by different companies and advancing to the river, and therefore we could not consider it as having an increased value by riparian rights.

Q. Well, did you take into account the increased value by reason of the riparian rights of the Milwaukee road below the union depot?

A. No, I did not.

Q. Or anywhere?

A. Or anywhere.

Q. Or that of any road, either here, or Minneapolis or Duluth?

A. No.

Q. And you concede, do you not, Mr. Morgan, that on the water-fronts, as a rule, the riparian rights are of very great value to the railroad companies, for the purpose of filling in and making railroad property?

A. There is no question but what there is a value attaching to riparian rights.

Q. And in St Paul, Minneapolis and Duluth, all those things were omitted?

A. Yes.

Q. Now, the Northern Pacific, itself, has—

A. I wish to say, however, in that connection, that the Omaha road made its claims as to riparian rights, which have been included in my estimate of that property.

Q. Was that the only company that you did include anything for riparian rights?

A. That was the only company that reported riparian rights, separately.

Q. And that is the only company that you allowed anything for that element of value?

A. Yes, that might be so in a way, although I think that, in considering all of that property in the vicinity of the union depot, instrumentally I was governed by a recognition of the fact that that property was more valuable as you advance to the river because of the riparian rights; and it being impossible to measure that propertyfrom both sides, that was the only way that I could consider it. So that, in that way, the riparian claims have been, to a certain extent, recognized as just, in proportion to the way that those values had been increased by the railroad companies themselves in advancing to the river.

Q. Then do I understand that you did take into account the element of value by reason of riparian rights, in St. Paul and Minneapolis and Duluth, as to all the railroads, or that you did not, Mr. Morgan? I don't care which way it is, but I would like to know what your claim is about it.

A. Well, I did in respect to the St. Paul union depot, because that was a case that could be intelligently gotten at, and where there were a great many separate ownerships to prop-

erty. In Minneapolis, the riparian claims could not be considered, primarily because, it is not a navigable stream in Minneapolis.

Q. Duluth?

A. In Duluth,—I think that the fact that our figures in Duluth agree very closely with—

Q. I don't care about the figures; I want to know whether or not, in getting at your value, you took into account the element of enhancement by reason of the riparian rights attaching to the land owned by the Northern Pacific Railway Company at Duluth.

A. Well, I can't say that I did, in the city of Duluth, any more than the Railroad Company did.

Q. Well, did you at all? I am not trying to find out from you what the Railroad Company did, I am trying to find out what you did, so there won't be any ifs or ands about it in the record.

A. My judgment was of the figures turned in in respect to certain of that property along the water front in Duluth, that it was very valuable by reason of its frontage on the lake.

Q. Did you take into account how much land could be made by filling in, from the existing land to the harbor line, as established by the government, either at Duluth or here?

A. I did not.

Q. Or at Minneapolis, where you say the river is not navigable—you didn't mean that, did you? You don't mean that the Mississippi river at Minneapolis is not a navigable stream, do you?

A. It is not a navigable stream in the sense of the commerce that would apply to the conditions at the union depot in St. Paul.

Q. Well, there is the falls between here and there; that is all you mean isn't it?

A. Well, I mean that the Mississippi river is improved for

navigation purposes by the government from St. Paul, or from the dam, through to the Gulf of Mexico; above the falls and above the dam it is not improved for navigable purposes, and therefore is not, in the strict sense, a navigable stream, although you can run boats on it.

Q. I thought—

A. There are no restrictions placed by the Congress of the United States in respect to putting a bridge across the Mississippi river.

Q. Isn't there above the falls?

A. So far as a drawbridge is concerned.

Q. Isn't there?

A. Not that I understand.

Q. I thought there was; I thought up at St. Cloud, and every other place on the river, that they considered it a navigable stream, and I thought the commerce, (especially in logs,) was exceedingly dense, or had been in years gone by, down to St. Anthony Falls.

A. It might have been.

Q. Now, did you compute the amount of land that could be made out to the navigation line in Minneapolis?

A. No.

Q. Or take into account the value of that right at all?

A. We took into account, of course, all the land that was claimed by the Railway Company out to the harbor line, in each case.

Q. What is the cost of a standard modern ballast car?

A. About $850 will buy a ballast car.

Q. Well, will that be a first-class ballast car equipment, a modern, down-to-date, like Roger's?

A. Yes, according to the returns put in by the railway companies, the minimum for a Rogers ballast car is $630; the maximum is $931.70; the average for all roads in the state is $805.72.

Q. What did you use?

A. $850.

Q. Now, a freight car. You said that the ballast cars were cheaper than the freight cars; what is the price of the freight cars?

A. No, I don't think that I meant to say that it was cheaper than freight cars.

Q. I think you did.

A. I said the up-keep for the class of service was cheaper.

Q. That ballast cars were not as expensive as freight cars, as I noted it. What is the value of freight cars? and we will be able to draw our own conclusions.

A. Box-cars vary according to their class. Box-cars of wood run from $475 to $963; box-cars of steel under-framing run from $1,095 to $1,170; and the average for wooden box-cars, for all roads in the state, is $745, and for steel under-frame box-cars, $1,134.

Q. Now, with respect to the manner in which you treated over-haul. You figured a thousand feet free overhaul on grading, and anything over and above that, which would be handled over a thousand feet, you wasted?

A. Wasted and borrowed.

Q. Are there a good many places where you can't find, on the ordinary right-of-way, a place for such wasting?

A. That might be so, in some places.

Q. And that would involve the buying of land or of rights to dump material on, wouldn't it?

A. That might be so, and whenever land is bought it is all included in your right-of-way.

Q. Have they followed your method of grading?

A. If any land has been purchased for that purpose—

Q. Yes, I know, but you don't understand, do you, that the Northern Pacific, in building its road, followed your method of wasting over and above the thousand feet? I understood

you to say that that was a modern method and that railroads are now trying to come to it. But, as a matter of fact, in constructing it they did not acquire lands for wasting material in that way, did they, that you know of? Didn't find any such lands, did you?

A. I think there are some places where right-of-way has been purchased for that purpose and shows up on the right-of-way that they have turned in.

Q. As I understand it, if your method were followed, of wasting embankment that wasn't needed within the thousand feet, in each direction from the cut, there would be more earth to waste, and to borrow also, than was in fact the case in the construction of the Northern Pacific road; do you so understand it?

A. No, I do not.

Q. You think they followed that method, do you?

A. No, I don't think they followed that method. I think that the ultimate cost of the work would be the same. Now, the yardage might vary, but the ultimate cost would be the same, because when you get beyond a thousand feet free haul, the cost of overhaul advances.

Q. Did you allow anything at all in your estimate as to the cost of grading, for providing rights for dumping your waste?

A. I considered that in this way: that the contractor oftentimes will make his own provision for that; he will oftentimes do that even within a thousand feet limit, he will buy rights to borrow material and he will buy rights to deposit material on. That is a matter that is nearly always taken care of by the contractor, just as the contractor insures his men.

Q. Well, did you estimate, (no matter who pays the bill, that is neither here nor there) did you estimate how much it would cost to provide such dumping rights or borrow-pits?

A. No—

Q. Or insurance on men?

A. —I should say that, on a good deal of the Northern Pacific line where that would be needed, the cost of the land would be very small indeed.

Q. And you made no estimate of it?

A. No.

Q. Either in that road or any other road?

A. Only as it has been included in the right-of-way of the Northern Pacific and utilized for that purpose during its construction or reconstruction. I might also call attention to the fact that the Northern Pacific right-of-way was 400 feet wide, from three to four hundred feet, a good deal of it 200 feet wide, and there wouldn't be very much necessity, under those circumstances, of buying land for depositing whatever waste might take place.

Q. Well, that isn't the reason that you didn't make an estimate of it?

A. No; that is a fact.

Q. Because you didn't make an estimate of it on any railroad, where the right-of-way was not more than a hundred feet, did you?

A. No; but that is a fact in respect to the Northern Pacific.

Q. Yes, I understand that, but that fact wasn't the reason why you didn't make that separate estimate, was it? because you didn't make it on any of the roads where the right-of-way is only a hundred feet wide or less.

A. That is so.

Q. I understood you to say to Mr. O'Brien—I might not have understood you aright there—that you included in your price for grading per yard an equivalent to cover the amount of overhaul that wasn't free, according to the methods employed by the Railroad Company in constructing its road; did I understand that right?

A. I estimated that, by paying for the waste and paying for the borrow, according to the plan of getting at the cubic

yards of material required, that would take care of the extra expense of overhaul.

Q. That is, the extra expense that would obtain if this method of yours was not followed of wasting and borrowing?

A. Yes, sir.

Q. Did you try to get at, in figures, how much that would be?

A. No, I did not.

Q. You didn't try to get at, in figures, then, how much would be saved or lost, as the case might be, by adopting your method of wasting and borrowing, over against the method which was employed by the Railroad Company in paying for the extra overhaul?

A. No, only in a very rough way, to try and justify the method, that was all.

Q. Well, did you get at it definitely enough so that you are willing to express any figure upon it?

A. I should have to go over my quantities and work that out before I would want to give it.

Q. You couldn't do it offhand?

A. I couldn't do it offhand, no.

Mr. BUTLER: We will offer in evidence, as a part of Mr. Morgan's cross-examination, a copy of his report to the Commission, from which there has been read certain parts. I have a copy of it myself, if you can furnish us one for the Master—can you, Mr. Morgan?

WITNESS: Yes, I can furnish it.

Mr. BUTLER: Let us have it, so we can mark it and keep the record right.

Mr. O'BRIEN: That is being printed, Mr. Butler. Better wait until the printed copies come, then we can have all the copies we want.

Mr. BUTLER: Very well, that is better. Mr. Morgan has it blue-printed, and I had forgotten, if I did know, that it was

being printed, and we will offer that in evidence.

Q. This paper marked "Complainant's Ex. 65—Morgan" is the report of the special committee of the common council of this city, to which you have made reference at different places in your testimony, both direct and cross, is it not, Mr. Morgan?

A. It is.

Mr. BUTLER: We will offer that in evidence.

Q. Have you a copy of that letter from the secretary of the Minnesota state tax commission?

A. I haven't a copy of it. I have the original letter here.

Mr. BUTLER: As a part of the cross-examination of Mr. Morgan, the Complainant offers in evidence the exhibit marked "Complainant's Ex. 66—Morgan," being the letter from the secretary of the Minnesota tax commission, dated July 7, 1908, and addressed to Mr. Morgan.

Q. Mr. Morgan, in your professional experience, you have not been called upon to acquire rights-of-way very much, have you?

A. No, I have not.

Q. Never have had any experience in actually buying right-of-way lands, have you?

A. No; I have been associated with those who have been purchasing right-of-way, and during the past four or five years, six years, I have devoted myself assiduously to a consideration of that problem, as related to the cost of reproduction, and endeavored to qualify myself for this work.

Q. Yes, but in the actual experience of doing it, you haven't had it?

A. I have not bought right-of-way.

Q. Or bought or sold lands of any kind?

A. Well, I have bought my own lot in St. Paul and built my own house on it.

Q. That is about all, isn't it?

A. Yes.

Q. Now, with respect to making estimates of projected lines: except under the direction of some one else, have you ever had any experience in that?

A. I do not know as I understand your question exactly. I have made a good many estimates for projected lines, and I can't say that I was dictated to as to how I should do it.

Q. Well, what I was trying to get at was this: have you had any, and if so how much, experience in the matter of estimating the cost of projected lines, as the responsible officer of a railroad company to the company?

A. Well, I have made estimates on projected lines, through Ilinois, Mississippi—

Q. For what company in Illinois?

A. For the Illinois Central company, and for the Illinois Central company in Mississippi. I have made estimates for extensions of lines, and have been in a position to have recourse to a large amount of information in respect to the construction of projected lines of road.

Q. Now, with reference generally to the amount of time that you have spent in the examination of the physical properties of railroad companies within Minnesota, how many stations are there in this state?

A. I haven't counted them up; I presume there may be perhaps a thousand stations in the state. A good many of them are nothing but little hamlets and small towns, one very similar to the other, in all parts of the state.

Q. When did you commence going out upon the properties of the railroad companies for the purpose of examination?

A. About the 1st of May, 1907.

Q. A year after your employment?

A. Yes.

Q. You commenced about May, 1907, to make a physical examination of the properties?

A. An examination of the physical properties, yes.

Q. And when did you get through?

A. About the 20th of December.

Q. The same year?

A. Yes.

Q. Six months?

A. Yes.

Q. Did you spend all the time from May to December, 1907, doing that?

A. Most of the time.

Q. Well, would you say five months, all together, or would you say as much as six whole months? I just want a rough statement.

A. Well, I should say that, considering the extra time that was put in on these terminals, and in Duluth, and in special points out in the state, made entirely separately during that time, that it would occupy the whole six months.

Q. And that did include, I take it, the period occupied by you in the inspecting of the terminals and the main lines and all the physical properties?

A. Well, I wouldn't want to say that, because I have given study to these terminals in these cities ever since the work began; on and off I have been over them, most of them, on foot, and I have spent a great deal of time studying the terminals of St. Paul and Minneapolis.

Q. Well, all together, you think that six months would cover the time spent in examining the physical properties of all the roads in the country and in the cities of Minnesota?

A. Well, I wouldn't know how to divide my time up, to show just how much time I had spent on each particular subject that I have considered, because—

Q. I want a mere approximation.

A. Well, I don't believe I could give that. For example, I might go to Minneapolis to examine something connected with the passenger station of the Milwaukee, to look it over.

Now, incidentally connected with that work, I would look at other things that were connected with the general property, so that I would like to say this: that there has not been a minute of time since I began this work, up to its completion, that hasn't been devoted to some part—

Q. I knew that, but I was trying to get at the amount of time spent.

A. I couldn't divide my time up.

Q. How many miles of road in the state, both of road and of track, if there is a difference?

A. Well, I have considered 7,596 miles of roadway.

Q. And that would be how much track?

A. That would be the equivalent of that amount of track; there would be 8,023 miles of main track and 10,437 miles of all tracks.

Q. You have had these reports from all of the companies in the state as to the aggregate reproduction-new cost?

A. Yes.

Q. What is the aggregate as returned by the railroad companies?

A. I do not know.

Q. Do you know what the aggregate would be according to your Estimate A, reproduction-cost new?

A. I think it is about 411 million dollars.

Q. But you don't know how far apart in the totals you would be from the railroad companies? You don't know what their aggregate would be?

A. I don't know what their aggregate would be for the same date.

Q. Well, for the date that they made it, could you tell us readily?

A. About 500 million dollars.

Q. I notice in this tracing which you are to have blueprinted for us, that indicates the unit price allowed for grad-

ing and the like, there seems to be some difference between you and the Northern Pacific Road as to the number of yards. Does that arise practically wholly from the different dates, or from the fact that they in their claims take into account some work that was uncompleted that you haven't taken into yours?

A. Yes, I think the estimate of the Northern Pacific, as turned in, took into account something over a million yards west of McHugh on the new construction, that we did not include in our estimate.

Q. That is that new big dump?

A. Yes. So that Mr. Darling and myself are practically together, as far as cubic yardage is concerned.

Q. Take that new dump out there, is that stuff hauled a good ways?

A. It has been, under the method that that work has been done; necessarily it had to be hauled a good ways.

Q. They didn't apply this wasting and borrowing everything over the thousand feet, on that work, did they?

A. No, I think not.

Q. It would be readily applicable to it, would it?

A. You understand, Mr. Butler, that that thousand-feet limit only applies to an excavation that is under 10,000 yards. Now, for anything that is over 10,000 yards we have increased the distance.

Q. Well, as a matter of fact; that is a very tremendous yardage out there, being hauled a long ways, isn't it?

A. Yes, it is.

Q. How far?

A. Oh, I don't know; they are hauling some of that five or six miles.

Q. Even more than that, some of it, isn't it?

A. Well, I guess some of it is. That work, however was not included in my estimate.

Q. No, I called attention to the fact that it wasn't included

in your estimate, and something with reference to the character of it, to suggest—

A. If you have a very large proposition of that kind, that is the most economical way to handle it, and cheapest way to do the work.

By Mr. O'BRIEN:

Q. Why is that true with regard to this particular work that you are now referring to?

A. That is true because you have very large quantities of material to handle, and you can do it with the most modern machinery and with justification for providing the facilities for performing it in an economical way.

Q. It is a changing of the grade of a road already existing is it not?

A. Yes.

Mr. BUTLER: It puts it in a new place, though.

WITNESS: Not the road there; it is right in the same place.

The MASTER: And the old road is to be abandoned?

WITNESS: The old road is to be abandoned, yes.

Mr. HOW: It is in testimony in this case, I think, that there has been no determination with regard to that. Do you know whether or not it is going to be abandoned?

WITNESS: I do not; I presume that it will be; I can't say positively.

Q. I understand, Mr. Morgan, that this is a staightening of the road and a change of the grade for some distance, in the western part of this state?

A. It is.

Q. And in some places the new line of the road will be identical with the present road, and in other places it will vary from it?

A. Yes.

Q. Mr. Morgan, I want to call your attention, once more, to the question of values placed by you upon terminal property

in St. Paul, Minneapolis and Duluth. In the first place, as I understand it, the area of the property as reported by the railway companies finally, has been accepted by you?

A. It has, where it was right; of course, we found some mistakes and corrected theirs, and it is on the same basis.

Q. But finally you have agreed upon the area?

A. Yes.

Q. Now, in some instances a portion of the area was covered by water, was it?

A. It was, originally, yes.

Q. Well did you not say that even now the land as reported extended into the water,—

A. It does in places.

Q. —at the Mississippi river?

A. Yes.

Q. And in Duluth—

A. Yes.

Q. —extended out to the harbor line?

A. Yes.

Q. So that some of the land which has been reported is, at the present time, covered by water and is not used for any purpose; is that true?

A. Yes.

Q. Did you make any distinction in the value of that land?

A. No, I did not.

Q. That land is available for railroad land by being filled, is it not?

A. It is.

Q. Then, did you not, in coming to your values, give to the land its full value for the purpose for which it was most available?

A. Yes, as measured by the contiguous property.

Q. Knowing, for instance, that land is of no value for residence purposes—land covered by water?

A. No.

Q. A large portion of it, in Duluth, for instance, consists of land covered by water and running out towards the harbor line?

A. Yes.

Q. It is available, however, for railroad purposes, is it not?

A. When filled.

Q. When filled, and you considered its adaptability for that purpose, did you not?

A. Yes, of course, by allowing the same value for it that was allowed for the land that was above the water.

Q. Yes or allowing the same value for it that you did for land above water. Now, the land in the valley of Phalen creek, you considered that land as having the same value as land on the bluff surrounding it?

A. Yes.

Q. That was available for residence purposes or for stores or mercantile purposes, or anything else?

A. Yes.

Q. And in giving the land that value, of necessity you must have considered that the land in the gorge was available for railroad purposes, did you not?

A. Necessarily, because that was the land that I had to consider.

Q. Now, what I am trying to get at is this: If you were valuing that land and eliminating its value for railroad purposes, you of necessity would have put a much lower value upon it, would you not?

A. Well, you mean a railroad value?

Q. No, no, the land value. Supposing that land, for some reason or other could not be used for railway purposes, would it be worth, for residence purposes, or for manufacturing purposes, the value which you have placed upon it?

A. I don't know as your question is clear to me. I would

answer it if it is clear to me.

Q. Well, I will see if I can't make it clear. It is the law, as I understand it, that land should be valued according to the use for which it is best adapted. Now, we have, in the valley or gorge through which the Northern Pacific passes and down which Phalen creek flows, a quantity of land which is entirely available for railroad purposes; is it not?

A. Yes.

Q. And it is practically only available for those purposes?

A. Largely so.

Q. Its greatest value comes from the fact that it is entirely available for railroad purposes, does it not?

A. Yes, I should say that that is so.

Q. Now, in arriving at the value of that land, did you eliminate its value for railroad purposes? Did you eliminate its availability, did you fail to consider its availability for railroad purposes?

A. Not in arriving at the railroad value.

The MASTER: Did you, in arriving at the true value?

WITNESS: In arriving at the true value, of course, I had to measure from the contiguous property and then raise that value with a multiple.

Q. In arriving at its true value, did you not take into consideration the fact of the availability of that land for railroad purposes, and assume that it was just as valuable as it would have been if it was not peculiarly situated in this gorge?

A. I do not believe that I can say that I took into account the availability of that land in measuring the true value of the land; but I did take into account its availability when I got the railroad value.

Q. Then, in arriving at the true value, you ignored all topographical peculiarities and simply assumed that that land was of an equal value with the land surrounding it?

A. Yes.

Q. Is that it?

A. That is the base.

Q. And you did not consider its availability for any particular purpose?

A. I could not consider its availability for any particular purpose in arriving at its true value when I made the measurements from the value of surrounding property.

Q. But you did assume that it was available for any purpose which the surrounding property was available for?

A. I had to do that.

Q. You did assume, then, that it was available land which could be used for valuable purposes?

A. Yes, by measuring it from the surrounding lands.

Q. And in that respect you did take into consideration the fact that the land was available?

A. For what?

Q. For use.

A. For use, yes.

Q. That the land was available for use, and you did that without regard to whether it was at the bottom of a bluff or in a gorge or under water?

A. Yes.

Q. You then ascertained, from your researches, that a railroad company was compelled to pay more at the time of purchasing land than its value at that time?

A. Yes.

Q. And you ascertained how much more, to your satisfaction, upon an average?

A. Yes.

Q. You added that to what you had already ascertained as true value, in your judgment, as its railroad value?

A. Yes.

Q. Now, the same multiple, the same condition would exist, without reference to the peculiar topography of the land con-

sidered, would it not?

A. Yes.

Q. And when you say that you did not add any value for riparian rights, or for the use of the land as an operating tool, or because there was a limited quantity of land similarly situated, you have explained fully your method, have you not?

A. Yes.

By Mr. BUTLER.

Q. Mr. Morgan, reference has been made to your statement on pages 22 and 23 of this blue-print copy of the report which you made to the Commission, and it has been offered in evidence. You stated accurately and satisfactorily to yourself, did you not, in that report what things you took into account and what things you omitted in this matter of reproduction cost and land value?

A. I tried to.

Q. And now, after these long days of informing counsel on both sides, you still think that you did, don't you?

A. Yes.

Q. And you think that that report satisfactorily discloses what you did, what theory you proceeded on, with respect to the utility, efficiency, adaptability, strategy, and all those things don't you?

A. As they have been enumerated here?

Q. In the report.

A. Yes, and which I followed up by the concluding paragraph that they are not, in my judgment, proper elements to be considered in connection with the cost of reproduction.

Q. Yes.

A. I do not say that they are not elements to be considered in the final analysis of the problem, but on the cost of reproduction alone, I do not think they should be.

Adjourned until Tuesday, January 5, at 10 o'clock A. M., the hearing to be resumed at the Federal building.

FEDERAL BUILDING, St. Paul, Minn., Tuesday, January 5, 1909, hearing resumed at 10 o'clock A. M.

CHARLES W. BUNN

sworn on behalf of Complainant, testified:

By Mr. How:

Q. Mr. Bunn, you have resided in St. Paul for many years?

A. Twenty-three years.

Q. And for the last eight or ten years, or more, you have been general counsel of the Northern Pacific Railway Company?

A. For twelve years.

Q. There is an intimation in the record that, prior to the institution of the suit of Perkins and Shepard against the Northern Pacific Railway Company and others, you had some conversation with Mr. Shepard about the suit. If you had any such conversation, will you state what it was and under what circumstances it occurred, and at what time, as nearly as you can place the time?

A. I had many conversations with Mr. Shepard about the matters which are involved in this suit; that is, about the reduction of rates that the Railroad Commission had ordered upon merchandise, about the reduction of rates that they ordered upon commodities in December, and about the two legislative acts that are mentioned in the Complaint in this case. I ought to say, to explain my talks with Mr. Shepard on that subject, that Mr. Shepard for many years has been in the habit of dropping into my office occasionally and talking over anything that interests him. I never was his attorney, in anything, either this matter or anything else, but he commenced to come down and talk with me about these rate reductions soon after the Railroad Commission had ordered, in the autumn, the reduction on merchandise, and he con-

tinued to drop in occasionally and talk with me, up to the time that he instituted his suit. He talked with me frequently about the suit that I brought, before the Circuit Court of the United States, called the Northern Pacific Railway Company against the Board of Railroad Commissioners. When the legislature had passed these two acts, Mr. Shepard became very much concerned to know what the course of the Northern Pacific would be. The acts had the effect to end, or make fruitless, the suit that I had brought against the Railroad Commission, and that, evidently, had to be dropped; Mr. Shepard understood that. At first, I told him that I didn't know what the Northern Pacific would do about the two legislative acts, the passenger act and the commodity act, but at some time, and I can't tell when, I informed Mr. Shepard, in my office, that I had advised the Northern Pacific that they ought not, on account of the penalties in those acts, to disobey those laws. I think, at the time I told him, that the President of the Company was in New York, and the board of Directors of the Company was soon to meet, and the matter was being discussed in New York between the President and directors, and I was here. Finally, Mr. Shepard came down to my office and told me that he was bound to bring a lawsuit, if the Company didn't, especially if he could find any other stockholder or stockholders to join him, and he didn't know but he should bring a lawsuit if he stood alone; and he wanted to know of me when the board of directors met—I think Mr. Shepard knew, at that time, that he had to make some demand or other, on the directors, in order to comply with the rule of court—and I told him when the board would meet, or about when. He asked me to see the rule of court, 94 equity rule, which I got and read to him, and he asked me if I wouldn't be good enough to draw out a demand which would comply with that rule and which he might make on the Northern Pacific directors; and I did so. From what I

have heard since, I am inclined to think that he took that and telegraphed it, as it stood, to New York, although when he left me he put it in his pocket and said he would consult his attorney about it. I think that is all, Mr. How.

Q. I might ask you, in relation to these conversations with Mr. Shepard, if you had any instruction from your board of directors, or any officer of the Company, in regard to them, or any of them.

A. I had no instructions. Of course, I had a knowledge that the board would probably do as I had advised and as I knew the President of the Company would advise, that is, decline to disobey these two laws; but I don't think any director or officer of the Company knew that I talked with Mr. Shepard.

CROSS-EXAMINATION.

By Mr. O'BRIEN:

Q. I suppose the subject of these laws was a matter of conference between the different railroad attorneys operating in the state?

A. Yes, sir, from time to time, Mr. O'Brien.

Q. And that the course of action taken by the Northern Pacific was one that was agreed upon by all of them?

A. It was not. I never had any understanding with any other railroad attorney as to what they were going to do.

Q. Well, was it not the plan that was agreed upon between the corporations—

A. No, sir.

Q. —the board of directors?

A. There was no agreement between any corporations that I know of.

Q. The matter of the commencement of the suits was concealed until about the day they commenced, was it not?

A. I think not.

Q. The suits were all commenced upon the same day?

A. I don't know.

Mr. How: The fact is they were not.

Q. Well, within forty-eight hours of each other?

Mr. How: I think that is not quite accurate, Mr. O'Brien.

Mr. O'Brien: Well, then, you had better be the witness, Mr How.

Witness: At any rate, I don't know, Mr. O'Brien.

Q. And with one or two exceptions, by the same attorneys?

A. I don't know about that.

Q. I was not present when the testimony of Mr. Seymour was given, and I don't suppose there is anything else I don't know whether there is anything else that Mr. Durment would like to ask Mr. Bunn or not. I will ask you a general question: Do I understand, Mr. Bunn, that it is your statement that these suits were not commenced in furtherance of an agreed and common purpose between the stockholders?

A. Why, absolutely not, Mr. O'Brien, to the best of my knowledge and belief. So far as I am concerned, while I had conversations with Judge Wilson and with Mr. Begg, I don't remember any conversations that I had with attorneys of the other railroads; and I knew, in a general way, what Judge Wilson's opinion was, and what Mr. Begg's opinion was, and that was the extent of my knowledge. I am certain that there was no understanding or agreement between different railroad companies to do anything. In fact, I know, of my own knowledge, that some of the railway companies were very averse to their stockholders bringing these actions, and some were not.

Mr. How: And remained so up to the time the actions were begun?

Witness: Remained so until after the actions were begun, and for aught I know, are yet; I don't know about that.

JOHN B. BAIRD,

recalled on behalf of Complainant, testified:

By Mr. How:

Q. Mr. Baird, from time to time, during the progress of this suit, questions have been asked by counsel for the defendants as to whether or not there can be a discrimination between two rates, each of which is just and reasonable in and of itself; there seems to me to be a fallacy underlying the proposition that there can be no such discrimination between rates, each of which is reasonable in and of itself; if you agree with me and can explain that fallacy, I should like to have you do so.

A. The questions seemed to be based on the assumption that a fair and reasonable rate was one that returned its proportion of the operating expenses, a profit to the carrier, and was not excessive, and that the fairness or reasonableness of any given rate could be so measured, without regard to its relation to any other rate, its effect on the movement of traffic, or the volume of business that could be handled under it.

A rate to be fair and reasonable must be not only fair to the carrier, permitting business to be handled under it at a profit, but it must also be fair to the shippers and fair to the communities or particular localities affected.

It cannot be said that any particular rate between two given points is a fair and reasonable one, except that it may be under certain conditions, that is, conditions as to the volume of traffic, as to its relation to other rates, and as it permits a free movement of traffic from the producer to the consumer. A rate which is fair under one set of conditions may be unfair under other conditions, unfair to the carrier or to some locality, or unfair as applied to the business of one shipper and not applied to the business of another competing for the same trade.

If a distance tariff basis for making rates could be adopted, it would necessarily eliminate all such considerations as competition between carriers, as the rate being based on distance only, the shorter lines, where there was more than one between any two points, would have the lower rate. It would leave out of consideration what might be a fair adjustment as between cities and towns serving the same common territory, and would, on that account, give the advantage to the town more favorably located on the line having a shorter distance. It would also leave out of consideration the necessity for selling transportation at the best rate obtainable with the option of not selling it at all, and the effect such a course would have on the free movement of traffic. If the principle of the legislative rates was applied generally, it would constitute an unfair and unreasonable adjustment of rates, not only for the railway company, but for the public as well.

The functions of a traffic manager of a railroad company charged with the making of rates would be easy of performance if all rates could be fixed by the company upon cost of service. It is, however, impossible so to do, for many reasons. In the first place, it is wholly impossible for anyone to assume any accuracy whatsoever of actual cost to the railroad company of performing any particular service. When freight is carried in full train loads, and the train runs complete from one station to another, the actual cost of putting together and hauling each particular train, can, perhaps, be figured with tolerable accuracy, but when that has been accomplished, much is left to be added in the way of the share of that train of the cost of maintenance of tracks, cars, engines, buildings, general expenses, taxes, etc. No satisfactory plan, so far as I know, has been suggested for the accurate or approximate estimate of such expense which should be charged to such a train. When, however, freight is carried in trains to which cars or packages of freight is constantly added, and from which

they are constantly released, the problem becomes even more involved, because in such cases it seems wholly impossible to determine even the actual cost of handling. For instance, a car may start from St. Paul loaded with less than carload freight, and contain perhaps fifty different consignments destined to various different stations. Again, the volume of traffic of particular commodities is continually fluctuating. A partial crop failure may make a difference of several thousand carloads in the total grain shipments.

Even a more serious proposition arises out of this: What is a reasonable rate must, in my judgment, and I think in the judgment of every traffic man charged with the duty of making rates, be determined not only from the standpoint of the railroad company in its primary interest of receiving a fair return for the service performed, but also from the standpoint of the consignor and consignee of the freight moved. The amount paid by a patron of a railway company for the transportation of freight is in most cases of small importance of itself. A little more or less cuts no figure. If, however, a patron living in one locality is compelled to pay more than another patron living in another locality but existing under similar conditions, the hardship is pronounced and immediately effective. Let us suppose that the Northern Pacific reaches a locality by a route 250 miles in length, and that from a common distributing point another locality ten miles distant is reached by another line by a route 200 miles in length, business men resident in the Northern Pacific town may not transact business successfully in competition with business men living in the locality reached by the other road unless the rates to the two localities are on a parity. In such case the amount which the Northern Pacific Railway Company receives, or ought to receive to the end that it shall have a fair return on the value of the property employed for the service, after the payment of all expenses, manifestly

cannot be controlling. It would not be fair to the business men in the Northern Pacific town to charge upon the basis of mileage, nor would it be the exercise of good business policy on the part of the Railroad Company to attempt to do so. Any such charge would, in my opinion, not be a reasonable charge in and of itself, and what is a reasonable charge in and of itself is governed by all the circumstances that go to make rates, and these circumstances are not, by any means, confined to the cost of actually performing the service. If they were, and the cost could be ascertained, as I have said before, rate-making would be free from the complexities which now surround it. To further illustrate this I have prepared an exhibit—

Q. Will you let us have that exhibit?

(Witness produces Complainant's Ex. 67—Baird.)

WITNESS: —showing the rates on grain from points in Minnesota, north and west of Detroit, and south and west of Erskine, Minnesota, on the Soo line, Northern Pacific and Great Northern railways, to Duluth The statement shows the present rates from the stations named therein to Duluth, the distance from each station and the rates based on such distance using the legislative scale. The present rate from all of these points to Duluth is 11 cents per 100 pounds on all kinds of grain. This adjustment is made in order that the towns opposite each other on the respective lines may compete on an equality for the same business in the intermediate territory and is fair to the shippers at each station. The stations grouped together in the statement are opposite across-country stations, on each of the three lines.

Q. That is to say, in the first group, for instance, at Crookston, on two lines, Dugdale on two lines, and Erskine on two lines, those stations are across the country?

A. Across country, opposite stations.

Q. In a lateral line opposite to each other?

A. Yes, as shown by the blue-print attached. There is also attached a sketch showing the location of these lines with reference to each other and the location of the towns on each line.

The distance to Duluth from points on the Great Northern railway increases coming south from Crookston to Glyndon, whereas, the distance to Duluth decreases coming south from the same point on the Northern Pacific railway towards Winnipeg Junction, and coming south over the Soo line from Erskine towards, Detroit, Minnesota.

The Northern Pacific could make no higher rates from Crookston, under the legislative scale, than the Great Northern rate, based on the actual distance, 263 miles, which is 10½ cents on wheat and 9½ cents on coarse grain, and while the Northern Pacific cannot obtain more than the rate made by the Great Northern for the shorter distance from Crookston, it is also true that the Great Northern for its haul of 310 miles from Felton to Duluth cannot obtain a greater rate than is charged by the Northern Pacific railway from Ulen to Duluth, 234 miles, if the present relation between Felton and Ulen rates is maintained. This would make the rate from Felton 10 cents on wheat and 8.8 cents on coarse grain instead of the legislative scale of 11 cents on wheat and 9.7 cents on coarse grain.

The Soo line cannot obtain any higher rate from Erskine, 354 miles from Duluth, than made by the Great Northern, for the shorter distance of 230 miles between the same points. Therefore, 9.9 cents on wheat and 8.7 cents on coarse grain would be the maximum rates the Soo line could obtain from stations on its line, ranging from 294 miles to 354 miles from Duluth, whereas, the legislative rates for the same distance would allow carriers from 10.9 cents to 11½ cents on wheat and from 9.6 cents to 10.1 cents on coarse grain.

By referring to the blue-print it will be noted that the

points of greatest distance on the Great Northern railway are Felton on the line running from Crookston to Glyndon, Georgetown on the line running from Crookston to Moorhead, and Hague on a spur off the line running from Grand Forks to Fargo.

Q. Situated in North Dakota?

A. In North Dakota. The distances from Duluth to these points are, Felton 310 miles, Georgetown 313, and Hague 340.

If the Ulen rate, as is done at the present time, is applied from Felton to Duluth, the rate at Ulen, therefore, would be the maximum on the line between Felton and Crookston, and the Ulen rate would also be the maximum rate on the line between Georgetown and Crookston, and would be the maximum rate on the line between Hague and Crookston through Grand Forks and East Grand Forks. In other words, the points of shortest distance in this group of stations—namely, Erskine and Ulen—under the present manner of adjusting these rates, would be the basing rates for all points in this territory. If the legislative rates are made effective and the plan of making equal rates to Duluth and Minneapolis from these stations is continued, there would be a further reduction on account of the shorter distance to Minneapolis. That is, the distance from Minneapolis to Ulen is less than the distance from Duluth to Ulen, therefore, if those rates are on a parity as between Duluth and Minneapolis, the Minneapolis distance from Ulen would be the controlling distance, instead of the distance from Duluth to Ulen.

If the relation now existing between the rates from various towns competing for trade in the same section is to be maintained, this exhibit shows that the rates fixed by the shorter distance of the Northern Pacific to Ulen and of the Great Northern to Erskine are the maximum rates that can be obtained by these three lines from all of the points named.

Any adjustment in rates which would materially interfere with the existing relation would work a discrimination against some of the towns affected and against shippers at those points for the reason that regardless of the amount of the rate itself it would be a discrimination against these towns, and against those shippers so adversely affected.

If each line should adopt the rates prescribed by the act of the legislature and make them effective regardless of all conditions, then the Northern Pacific rate would be greater than that of the Great Northern at Crookston, and the elevators or grain operators on the Northern Pacific railway at that point would have to pay a higher rate to Duluth than the elevators located at the same point on the Great Northern railway, and they would have the option of either paying that rate or of paying for the hauling of the grain by wagon to the Great Northern tracks, or of paying to have it switched by the Northern Pacific to the Great Northern connection. The same could be said with reference to elevators located on the tracks of the Soo line at Erskine.

We believe that the legislative rates are not remunerative, but if the legislative rates are fair and reasonable rates, then the rates which would be forced upon the carriers by the necessity of equalizing for the shorter distance of competing lines and of equalizing rates to competing markets are unreasonable and unremunerative to the carrier.

If the Railway Company should decline to shrink its rates below the legislative rates, in case the latter were made effective, but applied such rates to the actual distance the traffic is hauled regardless of rates from points on other lines in the same section of the country and at competing towns, the legislative rates would still be unfair and unreasonable as applied to some of the towns and as to some of the shippers, inasmuch as they would discriminate against towns that have heretofore been on an equable basis of rates and against

shippers located but a few miles apart or in the same town.

Q. Now, this exhibit shows—at least, the blue-print attached to the statement and forming a part of the exhibit—shows the distance across country from the Soo line, the most easterly line, running north and south through this territory, to the respective towns situate in the same tier upon the Northern Pacific, which is the next north-and-south line from the Northern Pacific to the Great Northern, which is the next north-and-south line to the west, and from that Great Northern line to another Great Northern line running parallel with it, and from that Great Northern line which is situated on the western edge of Minnesota to still another Great Northern line which is situated in the eastern edge of North Dakota?

A. That is true, except that the blue-print does not show the distance between the most westerly line of the Northern Pacific in Minnesota and the line on the opposite side of the river in North Dakota.

Q. Yes, that is true. Now, if I understand it properly, this exhibit not only shows what you claim in your answer that it shows, but it shows also that a maximum distance tariff prescribed by the legislature is not in all cases a gauge of the amount which a railway company may get from the traffic; is that a fact?

A. It is not a gauge in a great many cases, because this condition, the condition which exists in this locality, would also exist in other localities in Minnesota.

Q. So that it is not a fair test of the fairness of a rate prescribed by the legislature for a certain distance, as to whether or not it is a reasonable rate for hauling that distance under the most favorable conditions for a railway company?

A. No, sir, it is not.

CROSS-EXAMINATION

By Mr. O'BRIEN:

Q. Mr. Baird, the territory that you have referred to is

the territory which I indicate upon the map here of Minnesota, a line drawn east and west through Crookston and a line drawn east and west through Moorhead, and from Detroit north to Erskine?

A. Yes, sir.

Q. A portion of the state about between forty and fifty miles wide and between sixty and seventy miles long, is it?

A. No, it would be nearly 100 miles from Winnipeg Junction to East Grand Forks.

Q. I am speaking now of the direct lines, the line confined to Minnesota.

A. East Grand Forks is in Minnesota. You take all of the line between North Junction on our line and East Grand Forks, both on the Northern Pacific railway, all of that would be involved, and that is about 100 miles.

Q. Yes, but your line does not go directly north and south, it is at an angle; I am speaking of the boundaries of this piece of land that you are talking about, from thirty to forty miles east and west and from sixty to seventy miles north and south.

A. I should say it would be at least between seventy and eighty miles north and south.

Q. And that territory happens to be traversed by the three large northern roads, the Soo, the Northern Pacific and the Great Northern?

A. Yes, sir.

Q. And some of those roads have more than one track in that territory?

A. Some of them have two parallel lines; the Great Northern has two parallel lines in the same territory.

Q. In giving your answer to the counsel's question in which he indicated that he had a suspicion that there was a fallacy underlying the theory that no discrimination could be claimed between two rates each of which was just in and of

themselves, you read from a printed statement.

Mr. How: Typewritten.

A. Typewritten, yes, sir.

Q. A typewritten statement. I presume that was a statement of your views upon the question which you yourself had prepared?

A. Yes, sir.

Q. Now, you understood, Mr. Baird, that reference in your former examination was always made to undue and unreasonable discrimination, did you not?

A. Well, in a general way, yes.

Q. And you understood that the claim that was made was that when a rate was just and fair, in and of itself, under all of the conditions surrounding it and as applied to the traffic which it covered, it could not constitute discrimination; that is, undue, unreasonable and unlawful discrimination, as against another rate which was just and fair in and of itself under all the conditions surrounding it as applied to the traffic which it covered, did you not?

A. Well, the question as to whether a rate is fair and reasonable is one which must be considered with reference to the conditions.

Q. Certainly.

A. Now, if the rate is fair and reasonable under all of the conditions, it may be, with a slight change in those conditions, unfair or unreasonable.

Q. Of course if you change the conditions.

A. Yes.

Q. But do you dispute the proposition that if a rate is fair and just in and of itself, under all the conditions surrounding it as applied to the traffic which it covers, that it still may be an unlawful rate because it constitutes unjust, undue or unfair discrimination when compared with another rate, which other rate is just and reasonable, in and of itself, under all

the conditions surrounding it as applied to the traffic which it covers?

A. Well, there seems to be a contradiction of terms there, Mr. O'Brien. You say one rate is fair; you assume that one rate is fair under all the conditions, and that another rate is also fair under all the conditions, and those two rates applying between the same points, as I understand it. Well, they cannot both be fair if they are different rates.

Q. Then you have understood that this statement of mine had reference to rates between the same point upon the same road.

A. Between the same point or points where there is competition between the point on one road and a point on another road?

Q. Between the same points?

A. Between the same points, where the traffic originates and where it terminates. Between points which are competitive for the same traffic.

Q. Well, now, Mr. Baird, nobody ever claimed that; it was never so supposed, and so far as I know, there is nothing in any of the questions which were asked you which would indicate that. Now, supposing you answer the question upon the assumption that it is not intended to cover traffic between the same points, but is simply a matter of comparison of rates between different localities where the distance may be the same but the situation and conditions differ.

(The last two or three questions and answers were read.)

A. The comparison of any two rates which are governed by different conditions does not necessarily make one an unfair rate and the other a fair rate.

Q. That is, Mr. Baird, a mere difference in rates, in itself, cannot establish that either one of those rates is unfair?

A. No sir, it cannot.

Q. The whole object of your testimony and of the tables

prepared by you, is for the purpose of showing that, unless similar rates to those prescribed by law in Minnesota are adopted for Dakota, Montana, Idaho and Washington, and for the interstate business upon the line of the Northern Pacific Company, the Company would be guilty of discrimination if it adopted the Minnesota tariff and did not put it into operation upon other parts of the road; isn't that true?

A. Not exactly because we have never maintained, for instance, the same basis of rates locally in Montana that we have in Minnesota, or locally in Washington or Idaho, but on our rates from our terminals we have made them west-bound on a fair basis; that is, they have been graded up on a fair and what we believed a reasonable basis.

Q. But has not your claim been that, as a matter of law, if you adopted the Minnesota rates you would be compelled to revise all of these other rates?

A. Well, I don't believe that I made any claim as to the matter of law, but I did claim that we could not make a higher basis of rates, for instance, at Fargo and Grand Forks, than we made at points in Minnesota on the opposite side of the river, Moorhead and East Grand Forks; and that rate having been established at Fargo we could not justify any different basis of rates throughout North Dakota relatively than we had carried in the past, and I still think so.

Mr. HOW: By different basis, you mean different proportion, different relation?

WITNESS: Different relation; different relative basis of rates.

Q. Then, as I understand it, what your claim is, it amounts to this: That the Minnesota rates are effective to the Red river of the North, as a matter of law?

A. Yes, sir.

Q. If they are adopted; is that right?

A. Yes, sir.

Q. The Red river of the North constituting the boundary of the state between Minnesota and Dakota, where the Northern Pacific leaves the state of Minnesota, the laws of competition and of trade will force you to put in the same rate upon the towns in North Dakota situated upon the west bank of the Red river of the North?

A. Yes, sir.

Q. And that then, having established those rates upon those North Dakota towns, it will be necessary for you to adjust your rates generally in North Dakota so as to conform to the rates to those towns?

A. Yes, sir; yes, and we believe, also, that we should go beyond that: We don't believe that there is any justification for charging for 100 miles west of the Red river of the North any greater rate, relatively, than the rate that we charge for 100 miles east; that is, as the rates are graded 100 miles east of Moorhead, the rates should be graded west of Moorhead, relatively, on the same basis; and that would extend right through North Dakota and in through Montana.

Q. Now, is there any difference with reference to what constitutes unlawful discrimination between Fargo and Grand Forks and other towns located upon the west bank of the Red river of the North, than there is between the interior towns in North Dakota?

A. Yes, there is a difference because the rates at the towns along on the opposite banks of the Red river of the North are only a mile apart and they have always been on the same basis of rates.

Q. Is it not true that rates to and from Duluth are affected by rates to and from Superior?

A. Yes, sir.

Q. And that rates to and from Superior are affected by rates to and from Duluth?

A. That is correct.

Q. And are not specially low rates to each of those points justified by the vicinity of the other point?

A. Not on commodities covered by the legislative act or on merchandise.

Q. I am not speaking of the legislative act, I am speaking of rates generally as established and maintained.

A. From points in Minnesota?

Q. Yes.

A. Or beyond?

Q. Both.

A. I don't think that we would be justified in making any different rate to Duluth than to Superior.

Q. That isn't the question. I asked you whether or not it is true that especially low rates to each of those points are justified by the fact of the vicinity of the other point; for instance, low rates to Duluth because of its vicinity to Superior, low rates to Superior because of its vicinity to Duluth.

A. Well, I don't believe that we have ever taken that into consideration. We have always made our rates the same, and there are no circumstances which would seem to make a low rate to one point and not to the other.

Q. Why?

A. Because they are opposite points; they are practically one town, and to make a lower rate on a commodity, like grain, for instance, or a low rate from those points on a commodity like coal would be discrimination against the point from which the higher rate was applied or to which the higher rate was applied.

Q. Is that the reason that the rates are maintained the same?

A. That is the main reason that the rates are on a parity.

Q. Is not the main reason for the purpose of obtaining the traffic? For instance, the Omaha Road has no terminals in Duluth, has it?

A. Oh, yes.

Q. Its main terminals are in Superior, are they not?

A. Its main terminals are in Superior, but it has terminals in Duluth.

Q. Yes, but its main terminals are in Superior?

A. Yes.

Q. Now, if the Omaha Road makes a rate to Superior, it is necessary that you should make a rate to Duluth to meet that, is it not? That is, wherever you come in competition?

A. That is, from St. Paul and Minneapolis, but that would not control in the making of rates from points in Minnesota to North Dakota.

Q. No I don't suppose it would, but I am speaking of the making of rates from competing points. Of course, that would be a consideration and that is the reason it is done, isn't it?

A. Not altogether.

Q. Isn't that the main reason?

A. No, sir, I wouldn't say that was the main reason.

Q. You wouldn't say it was the main reason?

A. No, sir.

Q. But it is one of the considerations—

A. It is one of the considerations.

Q. —that is taken into mind?

A. Yes, sir.

Q. And so that is true wherever similar competition exists?

A. Necessarily, unless we go out of the traffic.

Q. And the fact of that competition justifies a lower rate than you would otherwise consider a fair rate, does it not?

A. It might under certain conditions; I would not say that it always would.

Q. What is the rate upon hard coal from Duluth to Minnesota Transfer?

A. $1.25.

Q. And what is the distance?

A. 157 miles, I believe.

Q. Is there any other portion of the line of the Northern Pacific Road upon which hard coal is carried for 156 or 157 miles at that rate?

A. No, I think not.

Q. Why is it that that rate is not a discrimination as compared with your other rates?

A. By reason of the circumstances surrounding that rate and the conditions which control it.

Q. Then you consider that the rate from Duluth to the Twin Cities upon hard coal is just and reasonable, in and of itself, as applied to the traffic which it covers?

A. Under the conditions surrounding it, yes, sir.

Q. Under the conditions surrounding it?

A. Yes, sir.

Q. And you believe that the higher rates maintained by your Road for the transportation of coal an equal distance in the state of Minnesota, between other points, is also fair and just, in and of itself, under the conditions which surround them?

A. Yes, sir.

Q. And that the fact that upon the Northern Pacific road in the state of Minnesota different prices are charged for the transportation of hard coal in carload lots for an equal distance but between different points do not agree, is not any evidence of unjust or undue discrimination?

A. No, sir.

Q. Because each of those rates is just and fair, in and of itself, as applied to the traffic covered by them?

A. Under the conditions surrounding those rates?

Q. Under the conditions surrounding those rates.

A. Yes, sir.

Q. Now, is there any fallacy in that claim of yours that you know of?

A. Not that occurs to me at the present time.

Q. Then the proposition, Mr. Baird, is true, that no discrimination can be claimed between two rates each of which is just and fair, in and of itself, as applied to the traffic to which it applies under all conditions surrounding each particular rate?

A. Well, in the cases which you cited, I believe that there is no unfair or unjust discrimination in either case.

Q. Now, if the legislative rate made under Chapter 232, laws of 1907, is a just and fair and reasonable rate to Moorhead, in the state of Minnesota, under all of the conditions surrounding that traffic, it should be enforced, should it not?

A. If, under all the conditions surrounding that traffic, I thought that was a fair and reasonable rate, I believe it should be enforced.

Q. Without any regard to whether that same rate would be a fair rate as applied to the traffic in North Dakota?

A. Yes, sir; without regard—Just repeat that question again.

Last question read.

Q. Now, let us imagine this condition: That the rate as established to Moorhead is an ample rate and a fair rate, as applied to that traffic, but that it would be an unfair rate if extended into North Dakota.

A. You mean extended on the same relative basis into North Dakota, or the same rate?

Q. Extended upon any basis into North Dakota; that it would be an unfair rate as extended into North Dakota: There is no law, that you know of, that compels you to put an unfair rate into North Dakota, is there?

A. Well, I can't conceive of any conditions which would

make a rate fair at Moorhead, for instance, and a rate made on the same basis unfair in North Dakota.

Q. Well, frankly, Mr. Baird, I can't either, and I don't believe that a rate which is fair from the Red river valley in Minnesota could be unfair from the Red River valley in North Dakota; but that is not the test in this case; it is not the test whether that territory is similarly situated, but the test is the fairness of the rate, in and of itself, in my judgment; and, to follow your argument, I have got to assume that that rate is unfair into North Dakota.

A. Well, I believe it is unfair in Minnesota.

Q. Now, I ask you to assume that it is fair in Minnesota and unfair in North Dakota; do you know of any law that compels you to put an unfair rate into North Dakota for the purpose of making that rate the same as it is in Minnesota?

A. You mean any legislative act or— '

Q. Any rule of law.

A. No, I don't know of any rule of law—

Q. It is necessary for you to be familiar—

Mr. How: I think he hadn't finished his answer; perhaps he had.

Q. It is necessary for you to be familiar with the general rules of law covering the subject of rates in order for you to make your tariffs, is it not?

A. Yes, sir.

Q. Well, do you know of any—you say you do not?

A. No, I had not quite finished that. The Interstate Commerce law provides that there shall be no discrimination as between localities. We manifestly cannot make any rate in North Dakota materially higher, relatively, than the rates in Minnesota, without discriminating against localities, and I believe, therefore, that any rate materially higher in North Dakota would be a discrimination under the Interstate Commerce law.

Q. Do I understand you to claim that a mere difference in those rates would be discrimination?

A. No, I wouldn't say that a mere difference, but—

Q. Do you want to change your definition of what constitutes unjust discrimination?

A. Well, I don't know that I gave any definition.

Q. Now, you are not adopting the assumption that I asked you to adopt: I said, upon the assumption that the rates prescribed by Chapter 232 are fair in Minnesota and unfair as applied to North Dakota, do you know of any rule of law prescribed by the Interstate Commerce Commission or the Interstate Commerce act, or by any other lawful authority, which would compel you to put an unfair rate into operation or effect in North Dakota, in order that it might be similar to a rate in Minnesota, the Minnesota rate being fair in itself?

A. If we believed that the rate which that act would make effective in North Dakota was an unfair and unreasonable basis of rates, I don't know of any law that would require us to put it into effect; but this question of the fairness and the reasonableness of rates is a matter of opinion, in a great many cases; there are conflicting opinions in regard to it; even the State Railway Commission of the state of Minnesota and the Interstate Commerce Commission do not agree as to what are fair and reasonable rates.

Q. But we are now speaking of the necessary and immediate effect of putting certain rates into operation in Minnesota; no one could claim that similar rates would have to be put into effect in another state or territory until the justness and fairness of the rates as applied to that territory was determined, could they?

A. Well, there might be questions of equity involved; that is, as to whether or not—of course that must be left, to some extent, to the judgment of the traffic officers as to what effect that rate will have on the different communities. It might

be, in their opinion, a fair and reasonable rate, and it might, in the opinion of the Railway Commission, for instance of North Dakota, or the Interstate Commerce Commission, be an unfair and unreasonable rate.

Q. Now, let us assume that the rates now maintained upon the Northern Pacific line are fair as to North Dakota, but that they are at the present time unfair as to traffic in Minnesota; do you claim that they should be maintained, in Minnesota, under those conditions?

A. I would not claim that any unfair or unreasonable rates, as against any locality, should be maintained.

Q. Or in any locality?

A. Or in any locality.

Q. Therefore, the inquiry must inevitably come back to the proposition as to whether the rates are fair and just, in and of themselves, as applied to the traffic which they cover, under all of the conditions and circumstances of that traffic?

A. Yes, sir.

Q. And in that determination, the expense of rendering the service must be the first consideration, must it not?

A. It is one consideration, not always the first consideration.

Q. Of necessity, is not the expense of rendering the service the first consideration?

A. Not always, no, sir.

Q. Is it not almost always necessarily the first consideration?

A. It is the first consideration only where we are getting down to a point where there is a question as to whether there is a margin of profit in handling the business; then it is the first consideration; otherwise, why, the other conditions govern.

Q. So long, therefore, as you are convinced that the rate

yields a margin of profit, other considerations become more important than the amount of that profit?

A. They are more controlling in the making of rates.

Q. More controlling than the amount of that profit?

A. Yes, sir.

Q. But up to the point as to whether or not the rate yields a profit, the question of expense, of necessity, is the first consideration?

A. Yes, sir.

Q. And I understand you to say, Mr. Baird, that you are unable to state what the expense is?

A. What the actual expense is, yes, sir.

Q. Do you mean by that that you are unable to approximate the expense?

A. To approximate it with any reasonable certainty.

Q. Have you ever tried?

A. No, because it is not within my province.

Q. Then when you say that you cannot determine the expense, you are relying upon the statement of the members of other departments of the Road?

A. Mainly, yes, sir.

Q. You are simply saying that you have not been furnished that information?

A. That is correct.

Q. But as to whether or not that could be ascertained by a fair and reasonable attempt, you don't know of your own knowledge?

A. Well, it does not seem to me that it can be, because there are so many factors of expense that cannot be assessed against any particular traffic.

Q. Now, by that you mean the particular items of traffic?

A. Well, for instance, as between freight and passenger traffic, or as between coal and merchandise traffic.

Q. Do you know that upon the books of the Northern Pa-

cific Road the expenses between freight and passenger traffic are actually divided?

A. I have never seen any such statements.

Q. You have always assumed that they could not be divided?

A. Yes, sir.

Q. Supposing it was a fact, Mr. Baird, that upon the Northern Pacific road the freight and passenger expenses were actually divided upon the books, and supposing it was a fact that of the division made of those expenses 70 per cent of the entire expense was charged directly to freight or to passenger, that it is not necessary so far as 70 per cent of the expenses are concerned to proceed upon any theory of division, but that they could be directly charged, such as brakesmen upon freight trains and conductors upon passenger trains, engineers upon freight trains and engineers upon passenger trains, and so on, and that only 30 per cent of the general expenses of the road were left to be divided upon some fair basis to be determined, would you still say that it was impossible to approximately separate the passenger and freight expenses?

A. They could be separated approximately.

Q. If only 30 per cent was left to be divided upon a basis to be ascertained, it certainly could be ascertained approximately correctly, could it not?

A. Yes, sir.

Q. But, Mr. Baird, upon those points you have not made any investigation?

A. None whatever.

RE-DIRECT-EXAMINATION.

By Mr. How:

Q. Is there any line of railway which, to your knowledge, touches Duluth which does not touch Superior?

A. Some of the roads running north from Duluth, the Duluth & Iron Range, the Duluth, Missabe & Northern, do not touch Superior.

Q. What roads do touch both towns, that you know of?

A. The Northern Pacific, the Great Northern, the Omaha, the Chicago, Milwaukee & St. Paul (through their traffic or trackage arrangement with the Northern Pacific), the Duluth, South Shore & Atlantic; and the Wisconsin Central are now into Superior, they will be into Duluth in a short time.

Q. I neglected to ask you whether or not in your Ex. 67 you have taken the rates on wheat and coarse grain as mere examples, or whether you intend by your testimony to confine the effect of your answer to wheat and coarse grain.

A. The effect would be somewhat the same as to merchandise and other commodities.

Q. Moving from the eastern terminals to those points?

A. From the eastern terminals, but the effect of it might not be the same as shown in this exhibit. To some extent it would be.

Q. But relatively it would be the same?

A. Yes, sir.

Q. And so with all the commodities covered by Chapter 382?

A. Yes, sir.

Q. And all merchandise covered by the order of the Commission?

A. Yes, sir.

RE-CROSS EXAMINATION.

By Mr. O'BRIEN:

Q. I do not understand, Mr. Baird, that you claim that your rates upon merchandise of the first class, for instance, are the same to each of the points shown by the first group of stations?

A. No, sir; they are not the same.

Q. Your rates upon wheat and coarse grain are the same?

A. Yes, sir.

Q. But your rates upon merchandise of the first class are different?

A. Are different, yes, sir.

Q. I don't mean different from your rates on wheat, but are different from each other.

A. Different from each of these separate stations.

Q. Different from each of these separate stations, different upon merchandise of the first class?

A. Yes.

Q. And that is true as to each group?

A. Yes, sir.

Q. And that is true as to each class of merchandise?

A. Yes, as to each class of merchandise.

Q. And it is true as to every other article of freight except wheat and coarse grain?

A. Well, I wouldn't want to say that.

Q. But you know of no other article in which the same condition applies?

A. Not exactly the same condition.

Q. Now, do you know of any other road in the state of Minnesota, outside of the Great Northern, the Soo and Northern Pacific, in which the same rate is given upon wheat and coarse grain from the same station uniformly?

A. No; the other roads make a difference between wheat and coarse grain.

Q. And the legislative rate makes a difference between wheat and coarse grain?

A. It does.

Q. The latter being given the lower rate?

A. Yes, sir.

Q. And the same is the practice upon every road in the state outside of these three northern roads?

A. The lines in the southern part of the state,—of course there is a great deal more coarse grain raised there than there is in the northern part of the state, and the rates made by the legislature seem to be made with reference to the conditions existing in the southern part of the state and not the northern part of the state.

Q. Now, upon the Great Northern road in its southern extension, are the rates the same upon wheat and upon coarse grain?

A. I couldn't answer that definitely.

By Mr. HOW:

Q. I understand you to say that conditions in different portions of the state differ with regard to the relation between wheat and coarse grain.

A. Yes, sir.

Q. They being very much more favorable to coarse grain in the southern part of the state than in the northern?

A. Yes, sir.

Mr. HOW: I understand that it will be stipulated that on the 15th day of May, 1905, and at all times thereafter and now, the Complainant Shepard was and has been and is the owner of 200 shares of stock in the Northern Pacific Railway Company. That is a proper understanding, isn't it, Mr. O'Brien?

Mr. O'BRIEN: I am perfectly willing that this stipulation shall appear of record as the stipulation, unless objected to by Mr. Durment when his attention is called to it. I reserve the right to consult with my associates and the Railroad Commission, and unless we object to it subsequently, that understanding may stand.

WILLIAM G. JOHNSON,
recalled for further cross-examination, testified:

By Mr. O'BRIEN:

WITNESS: I want to call the Master's attention to Ex. 54. You perhaps recall there was a question about the percentages being transposed in that exhibit, and I jumped at the conclusion in making that change; the original exhibit was all right; and if there is no objection I would like to substitute these.

The MASTER: In other words, I had made the change there just as you suggested. You say that change should not be made?

WITNESS: I thought these percentages applied to passengers carried; instead of that, they apply to passengers carried one mile, and they are all right.

The MASTER: Does this differ from the original exhibit?

WITNESS: Not from the original exhibit, except that I have put the percentages over here where they belong.

Mr. BUTLER: There was a column transposed.

The MASTER: In other words, you can take that other exhibit out and throw it away, and use this in its place?

WITNESS: Yes, sir; if you please.

Q. Mr. Johnson, you are the Assistant Comptroller of the Northern Pacific Railway Company?

A. Yes, sir.

Q. You are not charged with any duty with reference to the establishment of rates?

A. No, sir.

Q. You are not a traffic man?

A. No, sir.

Q. And never did fix any rate upon the Northern Pacific railway?

A. No, sir.

Q. In testifying in this case and presenting certain exhibits prepared by you and under your direction, I understand that you prepared those exhibits upon certain assumptions which you took.

A. The only assumption in preparing this exhibit (I suppose you refer to No. 62, showing the loss on the freight business) was in building up the tariffs which are the subject of this suit and extending them on the principles as covered by article 13 of the amended bill of complaint; in all other respects the actual tariffs themselves were used.

Q. You ascertained, I presume, what the prescribed rates would have produced in Minnesota during the period covered by exhibits 62 and 63, upon the assumption that an equal amount of freight was transported within the state?

A. I don't quite understand what you mean, Mr. O'Brien, by "an equal amount of freight was transported."

Q. You took a certain period in the year ending June 30, 1906, did you not?

A. Yes, sir; the months of October, 1905, and April, 1906, except as to merchandise, which was for one month.

Q. And you ascertained the extent of the traffic in commodities covered by Chapter 232?

A. Yes, sir.

Q. Upon the Northern Pacific road, during those months?

A. Yes, sir.

Q. And assumed that those months were average months?

A. Yes, sir.

Q. And you used two months, did you?

A. Two months, yes, sir, as being fairly representative of the traffic for one year.

Q. And you multiplied the result by six?

A. No, sir; no, sir; I didn't follow that plan, because I didn't believe it would be fair, a fair exhibit. I followed the plan of arriving at the losses, stated in percentages, and then

applying those percentages to the volume of business of the whole year, under each commodity.

Q. Now, that inquiry had reference solely to the Minnesota business covered by Chapter 232?

A. Why, that covered all of the business. In other words, the same plan was followed as applied to all the business covered by these statements.

Q. Well, did you include the interstate business in Minnesota as well as the intrastate business?

A. Yes, sir.

Q. You did not separate the business beginning and ending in Minnesota from the interstate business carried in Minnesota?

A. Yes, sir; we did.

Q. Well, then, what I want to get at is whether or not you ascertained, first, with reference to the two months you have spoken of, the revenue which would have been produced on Minnesota business, exclusively, covered by Chapter 232, if that law had been in force and effective during those months.

A. That was done.

Q. Now, have you the total of that?

A. Each one.

Mr. BUTLER: What exhibit are you referring to?

WITNESS: 62. The exhibit from 62-A to 62-G, inclusive, covering commodities, show, under the first item, the total revenue in those two months for each commodity; the first figure on the statement, take for example Ex. 62-A, shows the total revenue on hard coal business local to the state of Minnesota, $3,104.90; the next item on that statement shows the total amount of business that was affected.

Q. Let us follow the first item, Mr. Johnson.

A. Yes, sir.

Q. The total revenue from the carriage of hard coal in Minnesota, the traffic beginning and ending in this state, dur-

ing the months of October, 1905, and April, 1906, was $3,104.90?

A. Yes, sir.

Q. Prior to the passage of Chapter 232, laws of 1907, the rates upon coal were changed, and as those rates are now maintained the revenue from that same business would have been $1,598.37?

A. No, sir. If you will note the statement, it is divided into two parts; first we show the total revenue that was received whether that business was affected or not affected by the tariffs in question; then we picked out the business that was affected by these rates which is shown in the second item of $1,598.37; that business under the tariffs in question would have produced $1,512.67, a loss of $85.70. This $85.70 represents a decrease in the revenue of 5.36 per cent.

Mr. BUTLER: Of the business affected?

WITNESS: Of the business affected; and 2.76 per cent of all the business, whether affected or not affected.

Q. Yes, I think I understand that now. Then, as I get it, of the total business, total carriage of hard coal beginning and ending in the state of Minnesota, and which during the months referred to amounted to $3,104.90, a large portion of it was carried at rates which were not changed by the voluntary revision of the tariff, nor would they be changed by the adoption of Chapter 232?

A. That is true.

Q. But of that business the amount shown in the second column, $1,598.37, would be affected by Chapter 232?

A. Yes, sir.

Q. And the total reduction in revenue, from the carriage of hard coal during those two months, if the legislative rates had been in effect, would have amounted to $85.70?

A. Yes, sir.

Q. You ascertained that that amount was 5.36 per cent

of the amount shown in column 2?

A. Yes, sir.

Q. And 2.76 per cent of the amount shown in column 1?

A. Yes, sir.

Q. And you therefore assumed that if the legislative rates had been in effect for an entire year, it would have caused a decrease of 2.76 per cent in the revenues derived from the carriage of hard coal in the state of Minnesota upon traffic commencing and ending in the state?

A. Yes, sir.

Q. Now, where is that total carried to? Where does that total show?

A. If you will turn to Ex. 63, you will find that each of the percentages you refer to are applied to the intrastate hard coal business for the entire year, and the losses shown for a year; first, on the basis of the business affected, second on the basis of the percentage of the whole business.

Q. So that the amount of the total loss upon hard coal during that year would have been $916.13?

A. That would have been the reduction in revenue.

Q. Now, you followed that same plan and system with regard to each of the classes covered by Chapter 232?

A. Yes, sir.

Q. And, as shown by Ex. 63—Johnson, the total direct reduction in revenue during the year ending June 30, 1906, from the enforcement of the provisions of Chapter 232 would have been $22,636.70?

A. That is true, as nearly as we have been able to get at it.

Q. You followed the same general plan, I presume, with reference to the merchandise schedule?

A. Yes, sir, except that the figures for the merchandise were based on an analysis for one month, the month of October, and that was necessary, owing to the immense num-

ber of way-bills to be examined, the extent of the work, not only as applied to finding the loss on the true Minnesota business but also under the extension principle.

Q. And you ascertained that the total reduction in revenue which would have resulted from the operation of the order of the Railroad and Warehouse Commission of September 6, 1906, would have been $97,719.78?

A. That is true, as nearly as we could arrive at it.

Q. And that the total reduction during the year resulting from the enforcement of the merchandise order and of Chapter 232 would have been $120,356.48?

A. That would have been the reduction in the revenue on the Minnesota intrastate business.

Q. Was the year 1906 a fair year upon which to base this estimate?

A. Yes, I think so.

Q. So that it would be fair to assume that the result of the Commission's order and of Chapter 232, combined, would be to cause a direct loss in revenue to the Northern Pacific Railway Company, upon traffic to which it applied directly, of $120,356.48 per annum?

A. Yes, sir; but I want to qualify that by saying that, as I have shown in the statement, the percentage of loss, that is to say, 8.11 per cent on all Minnesota intrastate freight traffic, it would only be necessary to take any year, arrive at the total Minnesota intrastate freight revenue and apply that same percentage to get the losses. That would take care of any fluctuation in the volume of business from year to year.

The MASTER: That is the reason you used the per cent?

WITNESS: Yes, sir; for the purpose of exactness, rather than of taking two months and multiplying it by six.

Q. Now, have you ascertained the Minnesota intrastate traffic for any subsequent year?

A. No, sir; I haven't looked into that. I know, though,

in a general way, that it has not fluctuated very much.

Q. So that you consider it entirely fair to assume that the direct and net loss in revenue from the application of the Commission's order and of Chapter 232, would be $120,356.48, per annum?

A. No, sir; I would rather put it this way: that the reduction in revenue would be 8.11 per cent of the Minnesota instrastate freight business. That would take care of any change in the volume of business between one year and another.

Q. But you do consider that the example you have given is a fair example?

A. Yes, sir.

Q. And that there have not been great fluctuations?

A. Not to my knowledge, no.

Q. So that, in your judgment, this is a fair assumption, although, of course, it may vary as the traffic varies?

A. Yes, sir.

Q. And that if the periods adopted by you were fair average periods, the loss during that particular year was what you have stated?

A. Yes, sir.

Q. 1906 was a year of very heavy traffic, was it not?

A. Quite heavy traffic, yes, sir.

Q. The traffic was the largest that it has been in any one year of any past five years, was it not?

A. I think not; I think the traffic was heavier in the year ending June 30, 1907.

Q. But it was larger than the traffic in the year ending June 30, 1906?

A. Larger than 1906.

Q. And 1906 was larger than 1908?

A. I think about the same.

Q. Now, the longest haul exclusively in the state of Minne-

sota upon the Northern Pacific road, is about 300 miles, is it not?

A. About 300 miles, yes.

Q. So far as the Northern Pacific road is concerned, the tariffs provided in the Commission's order and in Chapter 232 do not apply after that distance is reached?

A. It is based on the haul, yes.

Q. There is no traffic upon the Northern Pacific road in the state of Minnesota coming under the schedule for a haul of more than 300 miles?

A. A little over 300 miles.

Q. Well, 310 miles would cover it all?

A. Yes, I think that is the longest haul.

Q. So that, if the prescribed freight rates (both the Commission's order and Chapter 232) are to be confined exclusively to Minnesota and can be so confined to Minnesota, the rates prescribed for a distance of more than 300 or 310 miles, are mere paper rates?

A. As far as these statements are concerned—

Q. I am not talking of these statements.

A. That is a question that I can't give you a decided answer to.

Q. But if you assume that these prescribed rates have no extra-territorial effect and must be applied exclusively to business beginning and ending in the state of Minnesota, the regulations as to rates for a distance of more than 310 miles have no effect upon Northern Pacific business?

A Unless the tariffs are applied to business outside of the state of Minnesota or to interstate business in Minnesota the loss certainly would have to be limited to the figures shown in this statement; but as to whether those rates can be confined to the state of Minnesota, intrastate business, it is beyond me to say. It is entirely a traffic matter.

Q. Yes, I am not asking you to argue it, Mr. Johnson, I

am asking you just for the facts.

A. I want to make it plain.

Q. Now, you did undertake, in the tables presented by you to ascertain the loss in revenue which the Northern Pacific would sustain if the rates prescribed by the State of Minnesota upon freight were applied to the entire business of the Company during the year ending June 30, 1906?

A. Not quite that, Mr. O'Brien. The statements that I have presented show what the loss or reduction in revenue would be to the Northern Pacific if the percentages of loss on the Minnesota intrastate business had been applied to the local business in all of the other states, and if the rates covered by these Minnesota tariffs or these rates, extended on the principle of a constant hauling charge, had been applied to the interstate business what the loss would have been to the Company.

Q. Now, let us take the state of North Dakota. Did you ascertain the total amount of intrastate business in North Dakota during the year 1906?

A. Yes, sir, but not separately. We took all the local business in other states.

Q. But you took all of the local business?

A. All of the local business in the other states.

Q. In the other states, but you made one computation of the aggregate local business outside of Minnesota?

A. Yes, sir.

Q. That is, the aggregate intrastate business in North Dakota, Montana, Washington, Idaho, Oregon,—anywhere else?

A. And Wisconsin.

Q. And Wisconsin. Now where is that aggregate found?

A. If you will kindly turn to Ex. 62-H, I think I may best answer that question by following this one statement right

straight through, and it will clear up the whole proposition, I think.

Under Article XIII of the bill of complaint as amended we were required to determine:

First: The loss that would accrue by the application of the rates at issue to the Minnesota intrastate business.

Second: The loss that would accrue by the application of the rates at issue (or those rates extended on the principle of a constant hauling charge) to the long-haul interstate business which was assumed to be the business carried more than 300 miles.

To determine the first proposition, the way-bills covering Minnesota true intrastate business were examined with the results shown on the first line, as follows:

The amount under the caption of "Total revenue," $74,913.85 is the revenue that was actually received on all such business, regardless of whether or not it would be reduced by the application of the rates in the tariffs at issue.

The MASTER: You are now referring to Ex. 62-H?

WITNESS: Yes, sir. The $45,021.73 in the column "Under Present Tariff," represents the revenue that was actually received by the Company from business that was affected by the application of the rates at issue. The $36,510.22 represents the revenue that the Company would have received at the new rates, the difference between the two latter sums of $8,511.51 being the reduction in revenue. The $8,511.51, divided by the $45,021.73, original revenue on affected business, reduces the loss to a percentage basis, being 18.91 per cent.

The $8,511.51 divided by the total original revenue of $74,913.85, reduces the loss to a percentage basis, being 11.36 per cent of the whole business whether affected or not affected by the rates at issue.

The second proposition was determined by rerating the way-bills and applying to them the rates included in the

tariffs in question, or those rates extended on the principles embodied in the tariffs.

If on through-billing the Northern Pacific proportion was in excess of what the rates at issue would produce for the same haul over the Northern Pacific, the difference was considered a loss on the assumption that our proportion of a through rate could not exceed the local rate. The results are shown in the second line of the statement. The remarks as to the items on the first line of the statement under corresponding captions apply to the interstate business hauled over 300 miles. We then apply the percentages of loss so determined to the business for the month of October, 1905.

On the third line we show business local to all states and interstate business hauled up to 300 miles.

The $609,310.09 represents the original revenue received from all intrastate business, plus the revenue received from interstate business hauled up to 300 miles, and to this sum were applied the percentages shown on the first line of the statement, producing a loss of $115,220.54, on the basis of the business affected, or a loss of $69,217.63 on all the business, whether affected or not affected by the change in rates.

On the fourth line we show interstate business hauled over 300 miles. The $862,293.70, it will be observed, is the interstate business that is shown on the second line of the statement, and which has heretofore been explained. Applying to this the percentages shown on the second line of the statement, and we arrive at a loss of $368,113.18, based on business affected, and $299,332.51 on all the business, affected and not affected, by the application of the new rates, or those rates extended.

The $1,471,603.79 is the original revenue received from all this class of business during the month in question, and dividing this into the $483,333.72 produces the average loss on all the business (intrastate and interstate) affected, 32.844 per

cent, and, divided into the $368,550.14, produces the average loss on the basis of all the business, whether affected or not affected, of 25.044 per cent.

Having determined the percentages of loss on the basis of the business affected, and on the basis of the whole business carried, it was then necessary to determine what the effect would be upon the business of an entire year. Assuming that the month of October was a fair test on a percentage basis (and not on the basis of multiplying the result by 12 and taking that figure as representing the loss for one year) the last two lines show what the reduction would amount to, being, on the basis of affected business, $6,652,217.24, and, on the basis of the business affected and not affected by the rates in question, $5,072,406.79.

In the case of merchandise and class-rate business, the task of revising the thousands of way-bills involved was an immense one, and this made it compulsory that the examination be confined to one month in order that the current freight accounting work be not stopped to the prejudice of the Company's interests. It may be well to state, however, that we had previously been requested to investigate the question of these reductions as applying to the Minnesota business, and the figures below show the result of such examination: In April, 1905, the reduction was 19.90 per cent; October, 1905, 18.91 per cent; June, 1907, 18.29 per cent; July, 1907, 18.15 per cent; August, 1907, 18.68 per cent; or, an average for the five months in question of 18.79 per cent; showing that the month of October, with its production of 18.91 per cent, was a fair representation of the business for a whole year.

Continuing, I may say that the same general principles were followed in arriving at the losses on the commodities, except that we used the months of October, 1905, and April, 1906, instead of one month.

Q. You ascertained, Mr. Johnson, did you, the total

amount of intrastate business transacted by the Northern Pacific Road upon its entire line during the year ending June 30, 1906?

A. Yes, sir.

Q. And what was that total?

A. I haven't the figures here, because it was consolidated with the interstate business hauled up to 300 miles.

Q. Well, with the interstate business hauled 300 miles, what did it amount to, the total of intrastate business combined with the total of interstate business hauled not more than 300 miles; that is, as I understand, it is the total of interstate business without regard to the length of the haul and the total intrastate business hauled not more than 300 miles?

A. Yes, sir. Now, I haven't those figures with me, Mr. O'Brien.

Q. Isn't that total given in Sheet H?

A. No, sir; those figures were not necessary in order to arrive at the loss for a year on the plan that I worked out.

Mr. BUTLER: That $609,310.09 was for one month's business, in October, 1905?

A. That was for one month's business, yes, sir.

Q. I understood you to say, Mr. Johnson, that, as shown in Ex. 63, you ascertained the total Minnesota business?

A. Yes, sir.

Q. And the total loss in revenue which would have occurred upon that business?

A. On the Minnesota intrastate business, yes, sir.

Q. On the Minnesota intrastate business?

A. Yes, sir.

Q. Amounting to $120,356.48?

A. Yes, sir.

Q. Which was 8.11 per cent of the total business transacted?

A. Yes, sir.

Q. Did you apply that percentage to all of the intrastate business transacted upon the entire line?

A. No, sir; that percentage was applied—or the various percentages were applied—to the total intrastate business of the entire line, plus the interstate business hauled up to 300 miles.

Mr. BUTLER: By commodities and classes?

WITNESS: By commodities and classes, each one on its own bottom.

Q. You did not compare the Minnesota intrastate business with the intrastate business of any other state, then?

A. A comparison as to what, Mr. O'Brien?

Q. As to anything.

A. No, sir.

Q. Having ascertained the percentage of loss upon Minnesota intrastate business, did you then apply these same tariffs to interstate business hauled less than 300 miles?

A. No, sir.

Q. I understood you to say, Mr. Johnson, in answer to my first question, that you practically divided the business of the Road into three classes: First, the intrastate business in each state, then the interstate business; and the interstate business you again subdivided between that hauled more than 300 miles and that hauled less than 300 miles.

A. Yes, sir, we did. We first found out what the Minnesota intrastate business was; we figured the loss on that business.

Q. And that was 8.11 per cent?

A. On the whole business, yes, of all classes.

Q. On the whole business of all classes in Minnesota?

A. Yes, sir.

Q. Did you use that per cent anywhere else?

A. Yes, sir; we applied the same percentage, not that

exact 8.11 per cent, but the percentage of loss on each commodity, to the interstate business that was hauled up to 300 miles in Minnesota. Then we determined the loss on the interstate business that was hauled over 300 miles; assuming that, as to Minnesota interstate business, we would have the same percentage of loss on that business hauled up to 300 miles, and, in fact, all interstate business, as we would on the Minnesota intrastate business.

Q. Did you ascertain what the effect would be on Minnesota interstate business—

A. No, sir.

Q. —by the application of these rates?

A. No, sir.

Q. Then you did not apply these rates and compare them with Minnesota interstate business?

A. No, sir; we didn't apply these rates to the interstate business in Minnesota.

Q. But you did apply a rate determined by the amount allowed for the last hundred miles found in the schedules?

A. In rerating the interstate business hauled over 300 miles we constructed a tariff by applying the principles of the constant hauling charge, and then used that tariff in rerating the interstate business hauled over 300 miles.

Recess until 2 o'clock P. M.

AFTERNOON SESSION.

Q. Calling your attention to Ex. 63, I think we understand that as being a statement of the total reduction in revenue which would have occurred during the year ending June 30, 1906, if these rates were applied exclusively to the Minnesota intrastate business?

A. Yes, sir.

Q. The next problem that you had was to ascertain what would be the effect of the rates if applied to business other

than intrastate?

A. No, the next proposition was to determine what the loss or reduction in revenue would be if the same percentage of reduction as was suffered on the Minnesota intrastate business was applied to the entire intrastate business of the Northern Pacific and the interstate business hauled up to 300 miles.

Q. And the third was to ascertain what would be the loss in revenue if the rates were applied to the balance of the interstate business upon the theory as claimed in the Complaint, you said?

A Yes, sir.

Q. So that there were three divisions?

A. Three divisions.

Q. First, Minnesota interstate business?

A. Intrastate.

Q. Intrastate business. Second, all other intrastate business, and interstate business hauled not more than 300 miles, and, third, interstate business hauled more than 300 miles?

A. Yes, sir; three propositions.

Q. You have no exhibit showing, upon one sheet, the loss which would occur on intrastate business outside of Minnesota and interstate business where the haul was less than 300 miles?

A. No, sir, no separate sheet.

Q. Nor have you a separate sheet for the third computation, the interstate business more than 300 miles?

A. Yes, sir; that is shown on the face of Ex. 62 to 62-H, inclusive.

Q. Ex. 62-H contains something more than interstate business hauled more than 300 miles, doesn't it?

A. Yes, sir, it takes in the three propositions; but what you stated as the third proposition (that is to say, the loss

on interstate business hauled over 300 miles) stands out specifically in the statement.

Q. That amount constitutes the second item appearing on Ex. 62-H?

A. Yes, sir; that is to say, for one month only, in order to get at the percentage of loss.

Q. I now desire to direct your attention to the second element of loss which you have described. We have, first, the loss upon Minnesota intrastate business from the direct operation of the rates?

A. Yes, sir.

Q. Second, we have the estimated loss upon intrastate business outside of Minnesota and interstate business hauled less than 300 miles?

A. Yes, sir.

Q. And, third, the estimated loss upon other interstate business.

A. All other, hauled over 300 miles.

Q. As I say, I desire to call your attention to the second of those divisions, or the estimated loss upon intrastate business outside of Minnesota and interstate business hauled less than 300 miles. That division is in two classes, first, intrastate business outside of Minnesota, and, next, interstate business hauled less than 300 miles?

A. Those two were considered as one.

Q. I understood they were considered as one but they in fact are capable of that first general division?

A. They would be capable, yes.

Q. And the intrastate business outside of Minnesota is again capable of division between each state?

A. The amount of business in each state?

Q. Yes, sir.

A. Yes, sir, the gross amount.

Q. The rates in no two states for the intrastate business in

those states are the same, are they?

A. As to that I can't say, but I assume that there is a variety.

Q. You assume that there is a variety?

A. Yes, that all rates are not the same.

Q. Now, having ascertained the percentage of loss in revenue in Minnesota intrastate business at 8.11 per cent, did you estimate that the same percentage of loss would occur in each of the other states upon the intrastate business transacted there?

A. Yes, sir.

Q. So that that division, which I now make of item 2, was arrived at by assuming, without regard to the rates in force in any state for the intrastate business in that state, that a loss of 8.11 per cent would occur in each of those states upon the intrastate business therein?

A. Yes, sir, in order to equalize the rates; that is to say, that the same reduction would of necessity have to be made in the other states as these tariffs made in the Minnesota business.

Q. The same percentage of reduction?

A. Yes, sir.

Q. And in arriving at that conclusion you did not take into consideration any of the rates actually maintained in the other states?

A. No, sir.

Q. It was an arbitrary computation?

A. Yes, sir.

Q. The second division included within the computation we are now speaking of, was with reference to the interstate business hauled less than 300 miles?

A. Yes, that is the second division, as you have made it.

Q. As I have made it?

A. Yes, sir.

Q. The second division of your second division?

A. Correct.

Mr. O'BRIEN: I desire to make a statement instead of asking a question, but if I incorrectly state it, I ask Mr. Johnson to correct me. I understand the testimony of Mr. Johnson to be that, in order to ascertain the entire loss in revenue which would be sustained by the Northern Pacific Railway Company, as an entirety, he first ascertained the loss in revenue which would be occasioned to the intrastate business in Minnesota, considering that business alone; he found that to be 8.11 per cent. He then undertook to ascertain what would be the loss to all of the intrastate business transacted by the Road outside of Minnesota and the interstate business on the entire line hauled less than 300 miles. That computation resolved itself into two general parts: First, the intrastate business transacted outside of Minnesota, and he estimated that the loss in revenue to that business would be the same as the loss in revenue to the Minnesota intrastate business, or 8.11 per cent. I next proposed to ascertain what basis was used for the loss upon interstate business [illegible]ed less than 300 miles. Those two give us his method of arriving at the second general division of his computation. Now, those particular methods, as I understand it, do not directly appear upon any of those exhibits, but what I am trying to do is to analyze how they were arrived at.

The MASTER: This statement is really a digest of much testimony that Mr. Johnson has given, and is correct as I understand from Mr. Johnson's attitude,—

WITNESS: Yes, sir.

The MASTER: —as far as it goes.

WITNESS: Now, I wish to correct what I think is an erroneous view taken by Mr. O'Brien in regard to the application of this percentage of 8.11 that he refers to.

The MASTER: Is that found in the exhibits?

WITNESS: Yes, sir; it is in Ex. 63. I want to make it clear that the final percentage on the whole business of 8.11 per cent was not applied to all the intrastate business of the Northern Pacific and the interstate business hauled up to 300 miles, but the percentages of loss shown for each commodity were applied to each commodity.

Mr. BUTLER: Now, illustrate that, Mr. Johnson, by showing what you mean by percentages for each commodity, referring to the exhibit.

A. For example: The loss on hard coal, on the business affected, was 2.76 per cent. That same percentage was applied to all the hard coal business in arriving at the loss for the entire line under the three divisions mentioned by Mr. O'Brien, and not the 8.11 per cent. Each commodity was taken on its own bottom as to percentage, because I realized that to apply one blanket percentage to all the business of the Company would produce figures that would be absolutely worthless, therefore we took the percentage of loss on each commodity and on the merchandise, and applied it to each commodity and the merchandise intrastate for the whole road, and on the interstate hauled up to 300 miles,—wholly in the interest of exactness.

Q. Well, I am very glad that you made that correction, Mr. Johnson. And now, that you have stated it, I think you said that before, although, in answer to my question just two or three minutes ago you did say that you applied the 8.11 per cent; I presume you misunderstood what I meant.

A. I misunderstood your question, because we didn't apply that blanket percentage to all the business. That is what I mean.

Q. Now, you ascertained from your investigations of the carriage of hard coal in Minnesota, where the business originated and ended in Minnesota, that if the Minnesota rate

had been applied during the year ending June 30, 1906, the loss in revenue would have been 2.76 per cent?

A. The reduction in revenue would have been 2.76 per cent of all the revenue received from hard coal hauled locally within the state of Minnesota.

Q. You then ascertained the entire revenue received from the carriage of hard coal upon the Northern Pacific System which was either confined to one state, or, if interstate, was hauled less than 300 miles, and estimated a similar percentage of loss upon all of that business?

A. Yes, sir.

Mr. BUTLER: The same percentage?

WITNESS: Applied the same percentage of loss, yes.

Q. And that was done without reference to the actual rates upon which any of that business was carried?

A. Yes, sir.

Q. You did the same with regard to each commodity mentioned in Chapter 232?

A. Yes, sir.

Q. And in each case without reference to the rates actually in force?

A. Yes, sir.

Q. I had intended to ask you the method in which you arrived at your estimated loss upon interstate business carried less than 300 miles; I now understand that your method was exactly the same for that as for intrastate business outside of Minnesota?

A. Yes, sir.

Q. This computation was made entirely without reference to the rates in force upon the Northern Pacific railway, under which the traffic actually moved?

A. Yes, sir, it was.

Q. It simply amounts to this: That if the revenue derived from the carriage of hard coal outside of the state of Minne-

sota wholly local to any one state, or if interstate, not carried more than 300 miles, were reduced 2.76 per cent, the total reduction would be the amount appearing in your exhibit?

A. Yes, sir.

Q. And that same statement is true with regard to each other item included in Chapter 232, except with reference to the amount of the percentage?

A. Yes, that is true.

Q. Did you make the same detailed examination as to the loss upon each class of merchandise included in the Commission's order of September 6, 1906?

A. The same general plan was followed as regards the loss on merchandise and class-rate business as was done with the commodities.

Q. But did you ascertain the percentage as to each class, or did you in that instance take the general percentage of 11.36 which appears on Ex. 63?

A. We took the general percentage of 11.36.

Q. In that case you took the general average percentage?

A. Yes, sir.

Q. And made your computation as to the loss in revenue upon the same basis, using that percentage?

A. Yes, sir.

Q. And that computation was likewise made without reference to any rate actually in force?

A. Yes, sir, outside of the state of Minnesota.

Q. Now, the third division, the interstate business hauled more than 300 miles, how did you arrive at that estimate?

A. The interstate business hauled over 300 miles was entirely rerated using the tariffs in question and extending those tariffs on the principles embodied therein of a constant haulage charge. We found out what the original revenue was, what the original revenue of the affected business was and

what that business would produce at the rates in question; the difference being the loss on that class of business.

Q. Did you take the rate allowed, for instance, for merchandise of the first class for 500 miles?

A. We took the Commission's tariff that was ordered in, and used that as far as it extended in mileage; then we added the constant hauling charge.

Q. That is, you took the order of the Commission of September 6, 1906 (and it would be well possibly for us to confine ourselves to merchandise of the first class), and you ascertained the rate allowed by that order for a haul of 500 miles?

A. Yes, sir.

Q. Can you give that rate?

A. Well, I haven't the tariff in my possession. I find on reference to the bill of complaint (Ex. A), that the rate on first-class merchandise is 74.72 cents per hundred weight.

Q. For 500 miles?

A. For 500 miles. That is to say, that is under the tariff of so-called "'Reasonable Maximum Terminal and Distributing Merchandise Rates."

Q. Now, what rate did you apply for 600 miles?

A. 79.6 cents.

Q. That is, you added for the distance between 500 and 600 miles the same amount as is the difference in the order of the Commission for between 400 and 500 miles haul?

A. Yes, sir.

Q. And for each subsequent hundred miles you added the same amount?

A. The same constant, yes, sir.

Q. The same amount?

A. The same amount per hundred miles.

The MASTER: That covers the proposition, I guess. That is the way I supposed it was, but I was not quite certain. Now, it is entirely clear.

Mr. BUTLER: If your Honor will look at Ex. 60—Johnson, for 500 miles the first class is 74.72; for 100 miles it would be 4.9; now, to get his 600-mile tariff he adds those together and gets 79.6, and for 700 miles he would add 4.9 again, and so on.

The MASTER: Every 100 miles you simply add that constant?

WITNESS: Yes, sir. We built up the tariff on that principle.

Q. You built up a tariff for interstate business hauled more than 300 miles upon that principle?

A. No, sir; we used the tariffs included in the bill of complaint as far as they went. For instance, this merchandise tariff runs up to 500 miles; consequently we used the rates quoted in the tariff up to 500 miles, but beyond that point we commence to add the constant.

Q. That is what I mean; you took this rate for 500 miles, and then arbitrarily, for each additional 100 miles, added the same amount as the Commission had added for the last 100 miles of the 500-mile haul?

A. Yes, sir.

Q. And in that way built up a tariff?

A. Yes, sir.

Q. And having done that, you applied that tariff to what portion of the interstate business?

A. All the interstate business hauled over 300 miles.

Q. Do you mean that you examined the way-bills of all of the interstate business for a year?

A. No, sir; the exhibit 62-H shows that that was done for October, 1905, only.

Q. You did that for the month of October, 1905?

A. Yes, sir; we didn't go beyond that, because, as previously stated in testimony, the task of doing even two months, let alone one year would have been enormous and impractic-

able without stopping the work of the office.

Q. Now, you found that a tariff established upon that basis would have resulted in a loss of revenue, derived from interstate business hauled more than 300 miles, during the month of October, 1905, amounting to a certain percentage of the total business of that character?

A. Yes, sir.

Q. And what was that percentage?

A. On the business affected it was 42.69 per cent.

Mr. BUTLER: That is, of the classes?

WITNESS: Yes; Ex. 62-H; and it was 34.71 per cent of all of the business affected and not affected of that character.

Q. Of all of the interstate business hauled more than 300 miles?

A. Yes, sir.

Mr. BUTLER: Class business? Was it all of class business?

WITNESS: Yes.

Q. Did you pursue the same course with reference to each of the classes mentioned in the order of the Commission?

A. The entire business was revised, therefore we applied the rates to each class of business. In other words, it was a complete revision.

Q. The percentage of reduction or loss (as you choose to call it) was different for the different classes, was it not?

A. Yes, sir, I assume it was, although I haven't any data with me to prove that statement.

Q. Are these percentages, 42.69 on business affected, and 34.71 on all business, average percentages for all merchandise?

A. Yes, sir.

Q. And you then computed the total loss in revenue which would have accrued upon interstate business hauled more than 300 miles if the same was reduced 34.71 per cent?

A. Yes, sir.

Q. As a matter of fact, when was this computation made?

A. The work took two months, and I think it was completed, according to the date of the statement here, about August, 1908.

Q. The merchandise rates to which we are now referring, had been in effect in Minnesota since November 15, 1906?

A. I believe so.

Q. With the exception of certain stations in Dakota east of the Missouri river, no changes had been made upon the line of the Northern Pacific Road such as you suggest in this table?

A. Not being a traffic man and familiar with all the tariffs of the Company, I can't say whether that is true or not.

Q. Then your table is made entirely upon the assumption that such a change as that would be necessary?

A. Yes, sir, on the assumption that prior to these reductions all rates of the Company were fair and equal, and that if there was a reduction in Minnesota there would be a similar percentage of reduction on the other business.

Q. Do you know what the rate upon merchandise of the first class was from the Pacific coast to the Twin Cities prior to the 15th of November, 1906?

A. No, sir; I am not at all familiar with individual rates.

Q. Could you tell what that rate would be, according to the tariff constructed by you in the manner in which you have described?

A. As I figure it, on first class merchandise, on the extension principle, the rate would be $1.482, on the basis of a haul of 2,000 miles.

Q. On the basis of a haul of 2,000 miles, upon merchandise of the first class, upon the theory used by you in constructing this tariff for interstate business hauled more than 300 miles, the rate from St. Paul to Pacific coast points would be $1.482?

A. That is as near as I can figure it.

Q. I think, Mr. Johnson, that I am correct in saying that the present rate upon merchandise of the first class from St. Paul to those points is $3.

A. I couldn't say whether that is correct or not.

Q. What is the rate upon merchandise of the first class allowed by the order of the Commission for a haul of 310 miles?

A. 61 cents.

Q. What is that per mile?

A. It is about 19.7 cents per 100 miles per hundred weight.

Q. What would that amount to for 2,000 miles, if extended upon that basis?

A. I don't know that I catch your question.

Q. Please ascertain what that would amount to for a haul of 2,000 miles at 1.97 cents per mile.

A. As I figure it, it is $3.94 per hundred weight.

Q. Mr. Johnson, it has appeared in evidence in this case that after the order of the Commission of September 6, 1906, went into effect (that date being November 15, 1906), the Northern Pacific Railway Company changed its rates to points in North Dakota east of the Missouri river, the change at that time extending to the river and on the main line of your road to Bismarck; that the change in rates to North Dakota was made upon the basis that I have asked you to now compute the rates to the coast, that is, the rate per mile to the farthest point in the state upon the line of the road was extended at the same rate per mile to Bismarck, and that those rates as so changed to that point have been maintained at the same time that the Minnesota merchandise rates have been maintained from November 15, 1906, until the present; I now ask you, as an accountant, if you desired to ascertain the practical outside effect of the enforcement of the Minnesota rates, would you not estimate that effect upon the actual

transactions of the road as they have taken place?

A. That might be true as regards the business coming under that tariff. Of course, I have made no computation to determine how that would come out, whether the loss would be more or less than is used in these exhibits.

Q. And if it appeared that, so applied, the interstate rates to all points beyond Bismarck were at the present time lower than the rates which would be afforded by that system of extending the Minnesota rates, would you say here that it would be fair to claim that there was any necessity of reducing the interstate rates beyond that point?

A. It seems to me that is wholly a traffic proposition. It is something that I am not familiar with.

Q. Would you, as an accountant, claim that the illustration given by me, if the circumstances which I have detailed are true, is a fair illustration or a fair claim as to what the extra-territorial effect of these rates would be?

A. I don't believe that mathematically the loss could be figured out except in one way, and that is to take the difference between the rates as they were prior to November 1, 1906, and the rates that were put into effect after that time, whatever they might be. That is purely a mathematical calculation.

Q. And to get at a proper basis for an estimate, you would take the actual facts as they exist, if actual facts with reference to the effect of the rates did exist?

A. If we had the accurate data to fall back on, yes, we might use it.

Adjourned until Monday, January 11, at 10 A. M.

FEDERAL BUILDING, St. Paul, Minn., Tuesday, January 26, 1909.

The hearing was resumed at 10 o'clock A. M., having been continued from January 11, 1909.

Mr. HOW: I desire to clear up the record or to make it certain with regard to the stipulation as to the ownership of stock by Complainant. I understood at the time the tentative stipulation was stated and taken of record that it would stand as stated if agreed to by counsel, and I don't know whether you have read it or not.

Mr. DURMENT: I haven't read it, but my recollection was that we agreed we would make a certain stipulation provided certain facts developed, and you later stated they did, and we stipulated that those were the facts, as I recall it.

Mr. HOW: The facts stated for stipulation are that Mr. Shepard, the Complainant, was on the 15th of May, 1905 (if I have the date right) the owner of 200 shares of stock in the Northern Pacific Railway Company, and ever since has been and still is, the owner of that stock.

Mr. DURMENT: That was the stipulation, as I understood it.

Mr. HOW: Yes.

Mr. DURMENT: Didn't you, Mr. O'Brien?

Mr. O'BRIEN: Yes.

The MASTER: Then that stands as it is in the record?

Mr. DURMENT: That stands as the stipulation, as I understand it.

Mr. O'BRIEN: Now, Mr. How, I desire to call your attention again to the fact that no statement of the assets of the Northwestern Improvement Company has been yet furnished by Mr. Elliott.

Mr. HOW: That is in my hands for examination, and I must get a little more information with regard to it, but it is under way and it will be furnished.

Mr. O'BRIEN: Thank you.

Conway W. Hillman was here sworn as a witness on behalf of Defendants.

Mr. O'Brien: We desire to make a statement with reference to the evidence which is about to be offered and have the statement go upon the record. We propose, at this time, to offer evidence to show the cost of the service required in the earning of the rates which are in controversy in this action, the merchandise rates, the commodity rates, and the passenger rates; but in presenting this evidence we desire to say that we insist that in no manner do we waive the fact that the burden of proof is upon the Complainant as to all of the disputed questions, and we insist that the burden is upon the Complainant to show that the services required by the prescribed rates would cost more than the amounts allowed, or, in any event, that it is a necessary part of the Complainant's case that the cost of the service be shown. The Complainant having rested its case without showing that, we have felt that because of the magnitude of the interests involved we ought, as a matter of good faith, to present whatever evidence we had upon that question to the Master, but insist that in doing so we in no manner assume the burden of showing those facts; and we desire, further, to state at this time, in the presence of the counsel in the other cases which have been referred to the Master, that the fact that we have attempted to present this evidence in this case is no indication that similar testimony will be presented by the Defendants in the other cases, and we shall insist that in those cases, as well as in this, the cost of the service is one of the elements necessary to be shown by the Complainants.

Mr. Butler: Were you not in error, Mr. O'Brien, in stating that the Complainants have rested?

Mr. O'Brien: I didn't mean by that, Mr. Butler, that the Complainant had rested in the sense that any evidence he might offer would be restricted to rebuttal evidence. There was certain evidence in New York, for instance, that was to be taken,

but while I didn't understand that that evidence upon the part of the Complainant was entirely closed, I did understand that their evidence upon their direct case, both as to the value of the property involved in the service and the effect of the prescribed rates had been closed.

Mr. BUTLER: Well, I didn't understand that there was any limitation at all upon what evidence they might put in as of the direct case. I have not been present at all the times during the hearing in this particular case, and have not examined the record with that in mind, but I haven't in mind any definition or limitation as to the right to put in evidence in the direct case.

Mr. O'BRIEN: Well, I don't know that there was any statement made. I wouldn't say that the record shows any statement made limiting the character of the evidence which you might produce, but it was certainly assumed by everybody acting on behalf of the Defendants that you had reached just that point in your case, and I would be very glad to ask you now if that is not the truth, that you have reached that point in your case.

Mr. BUTLER: Well, I would not be willing to state that of record, Mr. O'Brien.

Mr. DURMENT: Well, it seems to me that if they have only produced a part of their evidence upon these questions involving the question of values, involving the effect of rates upon their revenues, and the like, it is no time for the State to go on with that matter. Certainly, we ought not to be put in a position of assuming the burden when they have introduced a little of their testimony and we proceed to dance to that to have them then put us in the position of their meeting our evidence by that thing and allowing us to make new investigations and come back again, as we would certainly be entitled to.

The MASTER: It has not been suggested in this proceeding, to the Master, at least, that the testimony on the part of the Complainants has been closed as to any matter concerning

which they were introducing testimony, and perhaps there was a sort of general impression in regard to the matters you have suggested, that there might not be much more testimony to be offered, but that was simply an impression and entirely independent of the record. There has been no suggestion to the Master that they are not permitted to introduce testimony in regard to any subject that they may choose.

Mr. DURMENT: Well, that is true, but they called Mr. Gray, they said they wanted to cover certain things by him (perhaps not in the record, but in the consultation with regard to going on) they concluded with him; then they had Mr. Elliott and Mr. Johnson and Mr. Cleland; and Mr. How said that that substantially finished his evidence in the Northern Pacific case except some that he would have to take, perhaps, in New York, upon other matters, and they said they were through with Mr. Johnson; they said they were through with Mr. Cleland, and, as I understood, through with Mr. Elliott; and, naturally, we assumed from that, that their testimony upon this branch of the case was in.

The MASTER: The Master didn't get any such impression or suggestion, Mr. Durment.

Mr. HOW: I don't want to declare, or let a declaration pass, that I cannot put Mr. Gray, for instance, on again, or Mr. Darling on again, in the case in chief. If there has been any supposed mutual assumption that testimony on the question of values is closed on the part of the Complainant, I never have participated in it.

The MASTER: I suppose it is fair, as suggested by Mr. O'Brien and Mr. Durment, that it is for the Complainant, as a rule, to introduce all his testimony in the case, at least all his testimony on particular points in the case, before they are called upon to introduce any testimony at all upon those points. Of course, we are proceeding somewhat now, as I understand, under the suggestion of Judge Sanborn, when the matter was

before him, that it would be proper and better for the Defendants to fill in with their testimony when there was a lull in the Complainant's testimony, and that both sides push forward as rapidly as possible.

Mr. O'BRIEN: Well, I think that possibly there is no difference between the counsel in the case. My understanding of the matter was this: that, as the case stood when the last witness on behalf of the Complainant had been called, with the exception of evidence which it was suggested would be taken in New York, the Complainants had presented all of the evidence which they then had and then intended to present, but because of the fact that we were endeavoring to push the case forward as rapidly as possible and because of the peculiar character of the case, there was no attempt made at that time to demand that an absolute statement to that effect be made; and as I understand it at this time, that is the situation—that, as they are at present advised, they have no further testimony to present except the testimony in New York with reference to certain financial questions; and while we don't desire to resort to any technical objection to prevent testimony being presented, whether it is proper testimony in chief or testimony upon rebuttal, we have proceeded upon the assumption, in good faith, that the Complainants had completed their evidence, and I understand that is the fact, and that, as the case now stands, they do not intend to present any evidence with reference to the cost of the service, and I think that we are justified in asking the counsel to state whether or not that is true: that, as the case now stands, without binding themselves as to what may arise in the future, they have presented all of the evidence that they desire to present upon that question.

Mr. DURMENT: That is, if they have prepared other testimony in chief in their case, that would not be strictly rebut-

tal, we ought to have the privilege of having them go into it before we go into this.

Mr. O'BRIEN: Yes.

The MASTER: In other words, if they acquiesce in Mr. O'Brien's suggestion and view of the testimony, they are not foreclosed hereafter from introducing testimony upon any matter in the case if they are so advised; that is, if, hereafter, they should conclude it was proper and best to introduce further testimony in chief, you would not consider that they were foreclosed from so doing? If they say that, as at present advised, they don't propose to introduce any further testimony, it would not foreclose them hereafter from changing their minds and introducing further testimony in their case?

Mr. DURMENT: I was going to say, your Honor, that as I had understood, and I thought Mr. O'Brien had (I don't know yet but he had), that the witness for the Complainant had testified, at least several of them had, that it was impossible to figure or compute the cost of these various services.

The MASTER: Except approximately.

Mr. DURMENT: Well, I don't think they even said that, but it was a guess, and that anything like a fair estimate or computation of them could not be made; and the chief purpose, in fact, of our having these tables made was to demonstrate that it was a practical thing to make a fairly accurate distribution of the cost. Now, since we have prepared these tables, in the course of it, some question seems to have arisen between us, perhaps not directly—I mean between counsel for the Defendants—some reasons to anticipate that probably we had misunderstood that and the railroads had prepared already and had in waiting those very tables and estimates. When we adjourned before, we didn't understand that; and for that reason this thing is brought up at this time. Now, if they have them and it is their present intention to put

them in, I think we are entitled to have them go on.

The MASTER: That is, put them in in chief?

Mr. DURMENT: Yes; and if they have not and they have no such intention, that is another thing. It seems to me it is only fair that we should have that done at this time.

The MASTER: I suggest whether that is not a proper request on the part of the Defendants in this case.

Mr. BUTLER: Let us confer a moment, your Honor.

Mr. HOW: We are not prepared at present to submit any witness upon any point, either the cost of operation or any other point, and it is uncertain just when we can be ready. On one point, the preparation is very slow and very laborious. On another point that we have thought of putting in evidence upon, we have not the evidence prepared and we haven't been certain as to whether we would put it in at all. The Master will bear in mind that the Northern Pacific bill was framed leaving out some particular issues, or not particularly stated, in any event, that were in some of the other bills. It has never been determined whether we ought to avail ourselves of those points or not, and we are not ready, at present, to make that determination. It was understood by us that the State would go ahead with its case; it was understood by us that it did so in the case of Mr. Morgan, not only voluntarily, but that it desired the opportunity to do so, and we did not feel it encumbent upon us to go over our case from beginning to end and determine whether or not we had our entire case in chief in as we wanted it. It may be that we shall want to introduce evidence upon each one of the main points which we think we ought to establish; it may be that we shall want to introduce evidence of a character that we have not so far touched, but we certainly do not want to be precluded from introducing any evidence that we desire to introduce, unless Judge Sanborn's recommendation is to be abandoned, and we are to try the case in the manner and in the order that cases of

the kind are usually tried. In that event, we shall have to ask for a recess until we can get ready. Our understanding was, however, that all parties submitted to the recommendation of the Court. Our recollection is that the other side stated that they were ready at that time, within fifteen minutes' notice (perhaps I am not held to the number of minutes) to put on witnesses in order that the case might go ahead and in order that the Great Northern case should not be taken up. Now, if we are wrong about that and we have got to revise our views, we must withdraw and confer and determine these questions that we had not thought it necessary to determine at the time.

Mr. O'BRIEN: Mr. How, are you ready to rest this case now, if no further evidence is introduced?

Mr. HOW: Certainly I am not. I thought I had made it clear.

Mr. O'BRIEN: What evidence do you desire to produce?

Mr. HOW: I am not prepared to state. Am I called upon to state?

Mr. O'BRIEN: Then, after the trial of a case extending over eight months, you are not prepared to state upon what other subjects you desire to produce evidence?

Mr. HOW: You are right, sir.

Mr. O'BRIEN: When did that doubt first come in your mind?

Mr. HOW: I don't know what you mean by that. I don't know why I should answer the question.

Mr. O'BRIEN: I mean that, wittingly or unwittingly, you are not treating us candidly or fairly. If you had, from the beginning, intended to introduce proof as to the cost of the service, the form of your testimony, the answers of your witnesses and your statements as to what you desired to prove in this case, have been absolutely misleading to counsel for

the Defendants, and while I don't think you intended anything of the sort (and I make no such charge) that is the fact, and your statement now is ambiguous and not candid.

Mr. How: I think it is clear to the Master just what my position has been. I think it is clear to the Master that I never have known, and never have pretended to know, what was going to be done in the matter of the effect of the rates and the cost of the service and kindred subjects. I think that is clear to the Master. I think in all my statements with regard to what I proposed to prove, that the Master has understood that the case was divided between Mr. Butler and myself with regard to certain topics to be treated. I don't think that I have ever been accused before of not being candid without resenting it, but I don't resent it under the circumstances.

The Master: You are not accused of that now, Mr. How,—

Mr. How: Well, then I misunderstood.

The Master: —of intentionally being uncandid, but they say they have been misled, and they ask now for definite information in regard to it.

Mr. How: Now, if the Master does not insist, I refuse to give any definite information.

Mr. Durment: Well, your answer made here—I don't know whether you intended it or not—your answer does not give us the slightest information as to what you intend to do.

Mr. How: It does not intend to.

Mr. O'Brien: Well, that is candid.

Mr. Durment: That is what we expected, you intend not to answer that question.

Mr. How: I did intend not to answer the question. It is beyond me to answer.

The Master: Gentlemen, it is for the Master to take testimony. I understand the Complainants are not ready to

proceed. I understand it is optional with the Defendants whether they shall introduce testimony at this time or not. I do not understand that Judge Sanborn suggested, as an imperative rule, that the defendants should enter into the main part of their defense on any particular subject until the main part of the Complainant's testimony on that subject had been received, and if the Defendants are disinclined to introduce testimony upon any particular branch at the present time, they are at liberty to decline so to do.

Mr. How: They are at liberty to decline to proceed, but our understanding was that they wanted to go ahead with Mr. Morgan, they wanted to go ahead with Mr. Hillman; we didn't ask them to. They impliedly asked the privilege. Now, they are at liberty to stop if they want to.

The Master: Well, they say they were laboring under a misunderstanding as to the position of the Complainant in the case when they offered to go forward.

Mr. How: All right.

The Master: Now, understanding the situation as it is, it is, of course, for them to say whether they care to proceed or not.

Mr. Durment: To make it clear, at the time we went before Judge Sanborn and that suggestion was made, the Northern Pacific had proceeded so far with its evidence on values and other lines as to make it perfectly clear, without saying it in terms, they had made practically their presentation upon the question of values. We were in a position where we were called upon to fairly meet that evidence. We were in a position to do it, and that is what we meant when we said we were ready to go on, and that is what we have done. Mr. Morgan was called, and we spent a week or more with him, upon the question of valuation, meeting the matters which it was perfectly clear, from their testimony itself, if they

hadn't said anything else, it was up to us to meet. It made a fair showing upon the whole question. Now, we understood at that time, from talk between counsel as to witnesses they expected to call from time to time, and upon what points they expected to call them, and as to what evidence they had yet to come, if any, that they had closed their case practically upon these questions. They called Mr. Johnson to show the loss and put in his tables involving all these matters of the earnings and the loss and the rates and that sort of thing; some of their witnesses testified that it was impossible to make anything like an accurate or fair estimate of the cost of doing these different classes of work or dividing between state and interstate, and things of that sort, and we at least had a right to assume that they had fairly made their case upon those propositions just as they had upon the questions of value, and upon that assumption we prepared to go on with Mr. Hillman. Now, for reasons which we perhaps could not state definitely so as to make them clear to other people, and perhaps would not be called upon to do if we could, we have had some question in the last few days whether the railroads had not changed their minds, if they had not from the beginning contemplated such a course and prepared already or were in the course of preparing their statistics and evidence upon these very things, and we insist (and that is all we insist now) that we have a right to know that, and if that is the fact then we have a right to ask for an adjournment and not put in our evidence until we have seen that evidence if we want to. If they have not, and their case is fairly closed except something that would be properly rebuttal, then there is no occasion for our holding off, but we should go on.

The MASTER: I don't suppose the position of the Complainant can be made any clearer than it has been made by Mr. How's statement. Now, in view of that statement, if the

counsel for the Defendants are disinclined to introduce testimony at this time, they are at liberty to take an adjournment and decline so to do, as I said before.

Mr. O'BRIEN: Well, I suppose before we do that—because we realize the necessity for haste in this case—we ought to be allowed to ask whether or not, if an adjournment of sufficient time is taken, the Complainants propose to introduce evidence, as a part of their case in chief, as to the cost of the service. Now, I think that that statement upon the record is due to us and it is due to the counsel themselves, because I don't believe that the counsel engaged in this case are capable of jockeying with the Master and with the counsel as they would if they had prepared this evidence and concealed it until we went on and they drew our fire and then put in what was evidence in chief upon rebuttal, and my belief at this time is, because of my opinion of those counsel, that they have no such evidence as that prepared and I don't believe that they are doing that, and I think the record ought to show that they are not.

Attorney General YOUNG: Mr. How simply said he didn't know about that branch of the case.

The MASTER: I am a little inclined to think that the time has come when it is fair for the counsel for the Defendants to know whether or not further testimony is to be introduced by the Complainant, and if so, with reference to what issues, and if they are not prepared to answer this morning, if the Defendants are not prepared to go on with their testimony until they have an understanding as to the status of the evidence which the Complainant proposes to introduce, we will take an adjournment to such time as they can make answer to that proposition. Of course, the ordinary rules of evidence would require that all of the testimony in chief for the Complainant should be introduced before the Defendants should

introduce any testimony at all, and if this information is desired and the Defendants are not prepared, or unwilling, to go on until it is furnished, we will take an adjournment so that the matter may be considered by the Complainant. Isn't that a fair and proper course?

Mr. BUTLER: I think so. And it ought to have been brought up at the time that it was announced that the State desired to enter upon this branch of the testimony and produce the expert accountant who has just been sworn for that purpose. Now, it has not been determined, as far as I am advised, that the Complainants in this case will or will not, in the evidence, enter upon the problem of ascertaining the cost of the service covered by the schedules and rates and laws in question here.

The MASTER: Well, ought you not to introduce testimony, if you are going to, upon that branch of the case, before the Defendants do?

Mr. BUTLER: I think the State had a right, and has now, if they desire it, to have the case postponed until that be determined. I don't think I have any quarrel with the position in that regard. But in view of what was said (and I have not been present in this case all of the time and have not, of course, read all of the record, but have been reasonably familiar with the occurrences) after the application on the part of the Complainants in the Great Northern case to have part of the time of the Master to introduce its testimony, I think both at the time of that application and since, the State, as we understood its attitude, was willing to enter upon parts of their case without regard to whether the Complainant had completed on such subjects or not. I so understood the situation, and so Mr. Morgan was called; there being, as I understood at the time, special reasons for that, because he had to vacate the rooms that he was occupying in the Capitol. At that time it was announced that the State, when Mr. Morgan

had completed his testimony, was willing to go on with Mr. Hillman on the subject of the cost of the services involved in these suits. We had not the slightest objection to that, but we were never asked, then, or until now, whether or not we had rested upon that point, as I understood it.

Attorney General YOUNG: Were you present before Judge Sanborn?

Mr. BUTLER: No, I was not.

Attorney General YOUNG: Judge Sanborn asked Mr. How how near he was through.

Mr. BUTLER: I am speaking for myself. I didn't so understand it, and I didn't understand that we were or would be required to waive the introduction of testimony upon any point, because, in such a case as this, that would be a very important matter, and ought not to be left in the air; it ought to be definite.

The MASTER: What I was going to say, Mr. Butler, is I think there has been some misunderstanding on the part of counsel for the Defendants as well as counsel for the Complainant, and I think your position now is just the position that was suggested by me a few moments ago, and I suggest that we now take an adjournment to such time as it will be convenient for you either to go on with your testimony or state definitely just what the character of the further testimony you propose to introduce in this case will be, so that the Defendants may know how they ought to proceed with the testimony in their defense.

Mr. BUTLER: I haven't any objection to that, but must express a regret that the point was not raised a good many days ago when this matter was up.

The MASTER: That is true, and that was due to a misunderstanding, Mr. Butler, I think.

Mr. BUTLER: And it should not have been left, as it seems

to me, until this time, waiting, as we understood we were waiting, for the completion of the preparation for this examination, and then when it is commenced, in the form of an announcement of counsel as to their understanding, require us either to introduce testimony or to say that we did not intend in chief to introduce it upon that point.

The MASTER: Well, you see the situation, and as the Master understands it, neither party is at fault, but there is a misunderstanding here as to the position of the case and the evidence. Now, I understand the Defendants are not willing, as the matter now stands, to go on with their testimony, nor until they are more definitely apprised, or as definitely as practicable, of the character of the testimony that the Complainant proposes to introduce in the future.

Mr. BUTLER: I think they have that right, and I think they always had it, but I had supposed that they had waived it and gone on.

Mr. DURMENT: We regret it as much as Mr. Butler does, and if it had occurred to us that there could be any possible misunderstanding about the situation earlier, we would have suggested it; but it never occurred to us that there could be until within the last forty-eight hours.

The MASTER: There is a misunderstanding, gentlemen, as the Master is advised. Now, within what time, Mr. Butler, will you be able to advise counsel on the other side as to the character of testimony you propose to introduce? If you will tell us, we will adjourn to that time.

Mr. BUTLER: Well, give me a moment to talk with the others about that. (Consultation).

Mr. HOW: We will not be prepared to state, until Friday, as to whether we shall put on any witnesses to show the cost of operation, or upon any other topic which we have not touched and as to which, so far as we know, they have witnesses ready.

The MASTER: Is it agreeable to take an adjournment until Friday morning at 10 o'clock?

Mr. HOW: Let it be understood that we do not undertake to present a witness on Friday. On Friday we will declare what we purpose to do and when.

The MASTER: Come to an understanding in regard to the order of testimony on Friday, as I understand it?

Mr. HOW: Yes.

Attorney General YOUNG: And the character of the testimony to be offered by them. If they are prepared to make that statement on Friday, we will consent to an adjournment.

Mr. O'BRIEN: And if they are not prepared to present evidence at that time—

The MASTER: I understand they will not be prepared to present evidence at that time, probably, but that they will be prepared to state their position in such manner that we will then know how to proceed.

Mr. O'BRIEN: And we will be at liberty to determine what our action shall be, according to that statement.

The MASTER: Certainly.

Mr. O'BRIEN: We may go on if we see fit at that time?

The MASTER: At that time. Then, as I understand, testimony may be taken on Friday on the part of the Defendants if they are so advised.

Attorney General YOUNG: Yes.

The MASTER: And it will be proper for us to understand that we may go on taking testimony on Friday, but not necessarily so. It will be optional with the Defendants whether they will take testimony after hearing the statement of Complainant's counsel.

Mr. HOW: Our position is clear, that all we undertake to do on Friday is to declare what and when we will do.

The MASTER: That is clear, Mr. How.

Mr. HOW: And if we have one character of testimony, we shall not be ready to proceed for two or three weeks, and if we have another, we may be ready to proceed in a week.

The MASTER: I understand that there may be no testimony taken on the part of Complainant on Friday, but there may be on the part of the Defendants.

Mr. O'BRIEN: I would like to make one statement, because it would be unfortunate if, after the way this case has been tried, we get into a misunderstanding at this time as to what we have understood. When I made that statement this morning and stated that the Complainants had rested, it was because that was what I absolutely understood. I had no understanding or belief, or reason to believe, that in the Northern Pacific case the Complainants had contemplated, at any time for the past four months, proving the cost of the service as a part of their case in chief, and that was absolutely and entirely my understanding of the matter—and I am still and will continue to be under that belief until I am informed to the contrary—and believing that no attempt had been made, under the direction of the counsel, to ascertain that cost, we proposed to go on and offer this testimony, and I did not understand that that in any way precluded testimony in rebuttal, which of course would be practically the same. Now, I realize that I have been mistaken and I would be very much disappointed if I supposed that all of this time evidence of that sort had been in the possession of the Complainants and simply not presented until after the evidence for the Defendants had been.

Adjourned until Friday, January 29th, at 10 A. M.

FEDERAL BUILDING, St. Paul, Minn., Friday, January 29, 1909, the parties met before the Master pursuant to adjournment.

Mr. BUTLER: With respect to the matters that the Complainants reserved speaking about until this morning, we now state that we are not at this time willing to say that the testimony on the part of the Complainant is complete upon any point; and, further, we expect to introduce evidence touching the matter of value, which I think will be, for the most part, rebuttal. Next, we expect to introduce testimony on the question of the cost to the Railroad Company of rendering the services covered by the rates in controversy, and next, upon the reasonableness of the rates; that is to say, what is a reasonable rate of return.

Now, the testimony with respect to the cost of doing the business will be, to some extent, perhaps, in considerable proportion, applicable to all of the cases. The whole of it will be general in character. The testimony on the subject of what is a reasonable return on the value of the property, I think will all be of general application; that is, applied to all of the cases or capable of being made to apply to all of the cases.

Now, as to the time of going on on the subject of value, there is being prepared testimony in rebuttal of the testimony offered by the State, under the direction of Mr. Cooper—who is now absent and at the other end of the line—and I think he will be here in about a week. Very soon after his return we will be able to go on on that branch of the case.

The MASTER: Direct or rebuttal?

Mr BUTLER: Well, I think, your Honor, the testimony with respect to the value will all be practically rebuttal. At any rate, it will be for the purpose of affecting the value of the testimony given by the state and testing the principles upon which they arrived at their figures of valuation.

And with respect to what is a reasonable rate of return, that is testimony that is expected to be taken in the East, I think wholly so; perhaps not wholly so, but I think wholly so. And on the other subject, of the cost of doing the business covered by these rates, we had expected that the State was going on with their testimony, and while a good deal of consideration of this subject has been had, both in this case and in the others from the time of the commencement of the suits, we are not ready to go on, but I think it will not take long to become ready. Mr. Johnson, who has consulted with me a good deal about that matter, feels constrained to go to the other end of the line, wants to go tonight if he can. It can be arranged that Mr. Gray will be able to take the stand on the subject of cost instead of Mr. Johnson. Mr. Johnson will be absent a couple of weeks and I do not know whether it is possible that Mr. Gray should be ready in a week or ten days or not. Is that sufficient, gentlemen, for your purposes?

The MASTER: What is the proposition with reference to the other case, Mr. Butler?

Mr. BUTLER: The St. Louis case. I had a letter from Mr. Tittemore on Tuesday morning last saying that he believed he could be here in the early part of the week. I wrote him and he asked that his assistants have certain matters on hand, and I wrote him that that can be arranged, and I wired him this morning asking if he can answer by wire whether he can be here on Monday or Tuesday next, and if we are to shift to that case, there are some matters in it that can be taken up, I think, in short order, next week if we are ready to shift to the St. Louis case.

The MASTER: That is, on Monday or Tuesday, then, we can proceed with the St. Louis case, for a time, at least?

Mr. BUTLER: Well, I am not able to give absolute assurance on that. You know that Mr. Tittemore is not now with the Company and is away, but I expect an answer to my tele-

gram during the time of the two days which will indicate whether he can be here on Monday or Tuesday. I would not like to shift to that case unless he is to be here.

The MASTER: You wish to finish with him before taking up other witnesses in that case?

Mr. BUTLER: Yes; and I would like to make a finish of the case, if I can, when we shift to it. There are some other matters, your Honor will remember, to be considered on the matter of the value of that property, and perhaps the application of some of the percentages established to business of other years, which will involve the accounting department to some extent.

Mr. O'BRIEN: Your Honor, with regard to the testimony suggested by Mr. Butler on the question of value, I don't think there can be any doubt that that is technically and absolutely rebuttal testimony, and we have not completed all of our testimony in the Northern Pacific case as to value, so that would be very clearly testimony that ought to wait until we finish. So far as the testimony as to what a fair return would be, we do not care whether it is introduced as rebuttal or direct or whether the right is reserved as to that. The testimony as to the cost of service is so clearly a part of the Complainant's case that we feel that that ought to be introduced before the testimony for the Defendants is introduced, so that we desire to reserve that portion of our testimony. Now, as to the saving of time,—I don't know whether the counsel knows when Mr. Gray will be ready to go on.

Mr. BUTLER: I can't tell you with exactness. I can ascertain in a day or so.

Mr. O'BRIEN: Do you think within a week or ten days?

Mr. BUTLER: Within a week or ten days.

Mr. O'BRIEN: Now, I suggest that the time between now and then can be very profitably used in completing the Minneapolis & St. Louis case. The values have not been shown by the State yet in the Minneapolis & St. Louis case, and we are

ready to go on with that on Monday. If Mr. Tittemore is here on Monday we can complete his cross-examination. If he is not here, we can probably go on with the testimony as to value in that case. Mr. Morgan says he can hardly be prepared by Monday, but he can be by the middle of the week, and if Mr. Tittemore can come here Monday we can go on with his testimony. In the mean time we may have additional evidence.

Mr. BUTLER: It is probable that he will not be here Monday, Mr. O'Brien, I just come to think of it, knowing his disposition not to travel, if he can help it, on Sunday.

Mr. O'BRIEN: Piety?

Mr. BUTLER: Yes,—and cussedness,—mixed.

Mr. O'BRIEN: We may be able to present the additional evidence in the Northern Pacific case as to value, we are very anxious to complete the additional evidence as to value.

Mr. BUTLER: Could you do that on Monday, Mr. O'Brien—take up that subject? If you could, I would be obliged to you because it would give me a chance to make sure about Mr. Tittemore.

Mr. O'BRIEN: Well, we can present some evidence on value on Monday, but I do not think we could present the principal part of our evidence.

The MASTER: Occupy the day substantially? That is a little uncertain, of course, depending perhaps upon the cross-examination.

Mr. O'BRIEN: Well, you remember that when we adjourned at the Capitol Mr. Morgan was preparing certain tables. Those tables are complete, we have those ready to present, but I don't know that they would take very much time. They are the tables as to the subsidiary corporations, which have not been presented yet to the Court, and then there was the large table, showing in separate columns, each contention as to value. We have all those prepared to introduce, and I think it will be a great convenience to Court and counsel but I do not imagine

there will be much time spent on them.

The MASTER: Well, the Master will do whatever counsel desire in the matter. Shall we take an adjournment until Monday morning and expect to go as far as we can? We will know better at that time what the situation is, and perhaps take up Mr. Tittemore on Tuesday and go on and complete the Minneapolis & St. Louis case.

Mr. BUTLER: Will you be ready, do you think, with your testimony on value in the Minneapolis & St. Louis case?

Mr. MORGAN: I would not want to promise that.

Mr. O'BRIEN: May it please the Court, we are extremely anxious, without regard to the order of proof, to close the testimony in these two cases, and if the Court will take an adjournment until Monday morning we will present some evidence, in either the Northern Pacific or the Minneapolis & St. Louis case on the question of value, and possibly in both those cases, and I hope that Mr. Butler will endeavor to have that evidence on cost of service as soon as possible so that we can go on very rapidly.

Mr. BUTLER: I will do everything I can to hurry that up.

The MASTER: Then we will adjourn until Monday morning at 10 o'clock and it will be understood that the testimony from that time on will proceed as rapidly as possible, taking up the one case or the other as may be convenient.

Mr. O'BRIEN: Yes, sir.

Adjourned until Monday morning, February 1, 1909.

FEDERAL BUILDING, St. Paul, Minn., Monday, February 1, 1909. The hearing was resumed at 10 o'clock A. M.

DWIGHT C. MORGAN,
recalled on behalf of Defendants, testified:

By Mr. O'BRIEN:

Q. Mr. Morgan, have you prepared a table with reference to each of the subsidiary companies in Minnesota referred to in the testimony of Mr. Darling and in Darling's Ex. 3; that is, the St. Paul Union Depot, the Duluth Union Depot, the Minnesota Transfer Company and the Minnesota & International Railway Company?

A. I have.

Q. Will you produce the table?

Witness produces blue-print, marked "Defts.' Ex. TT—Morgan."

Q. Will you please explain Ex. TT?

A. Ex. TT is a comparative statement showing the cost of reproducing the properties of the St Paul Union Depot Company, as submitted by the Railway Company, for June 30, 1906, and in which an attempt has been made to divide their estimate, showing the cost of reproduction, in column 1, omitting the multiples on lands for right-of-way, yards and terminals, and the present value in column 2, which was omitted in the report of the Railway Company; and, in column 3, the cost of reproduction, including the multiples on land, and in column 4 the present value—which was not reported by the Railway Company. Columns 5, 6, 7 and 8 pertain to the State's valuation, and column 5 is Estimate B, which omits multiples on lands for right-of-way, yards and terminals. Column 6 is the present value of the properties as measured from reproduction cost, taking the depreciation due to wear and tear and time and use. Column 7 is cost of reproduction including the multiples on lands for right-of-way, yards and terminals; and

column 8 is present value, showing the depreciation. At the bottom of the page, under columns 5 and 6, is shown the reproduction cost, omitting the item of adaptation and solidification of road-bed.

Q. Column 5 is your estimate of the cost of reproducing the property of the St. Paul Union Depot on June 30, 1907, omitting the multiple?

A. It is.

Q. And the prices stated there, as to each item, were arrived at by you, I think you said in your testimony, when you were upon the stand before, in the same manenr and with the same care and the same detailed method, as used by you in ascertaining the property of the Northern Pacific Railway Company in the state of Minnesota?

A. Precisely.

Q. And columns 5, 6, 7 and 8 are now introduced in evidence in this case for the first time?

A. They are.

Q. And are offered here as your original estimate ot the values of those properties upon the theories described?

A. Upon the theories described, with the same statement that the Estimate B was subsequently prepared.

Mr. O'BRIEN: I desire to say to the Master that this being an offer of this table, being a comparative table, I want to emphasize the fact that columns 5, 6, 7 and 8 are offered as original evidence; but for the sake of—

Mr. BUTLER: The others are mere recapitulations?

Mr. O'BRIEN: The others are mere statements as to what the Union Depot Company reported, and they are placed upon this for comparison.

The MASTER: That does not refer to their evidence in this case, but to the report they have made to the Railroad & Warehouse Commission?

Mr. O'BRIEN: Yes; it does not refer to the evidence in this

case; they are merely offered here for comparison. We will introduce a table, after awhile, which will include, also, their evidence in this case, but I thought it was unnecessary to encumber the record with independent tables showing columns 5, 6, 7 and 8, as we have them in this. I suppose that is satisfactory.

The MASTER: Columns 5, 6, 7 and 8 is your testimony, and the other columns are introduced for comparison?

Mr. BUTLER: We will offer the other columns, as a part of the cross-examination, columns 1, 2, 3 and 4 of Ex. TT.

Mr. O'BRIEN: I have no objection to offering the entire exhibit.

Mr. BUTLER: You had better offer the entire exhibit.

The MASTER: I understood it was offered as a whole. Mr. O'Brien's words were explanatory as to a portion of it. A portion of it was their own testimony, and a portion simply the report which has been made and put on this exhibit for the purpose of comparison, but I understood this whole exhibit was in evidence.

Mr. O'BRIEN: Yes; I intended to offer the whole exhibit, but what I desired to do was this: the last four columns appear now, for the first time, as Mr. Morgan's testimony as to the value of these properties, and I want to call the attention of the Court to the fact that while this table is in the form of a comparative table, we offer that portion of it, as Mr. Morgan's testimony, as to the value of the properties.

Mr. BUTLER: That is all right.

Mr. O'BRIEN: But I have no objection at all, and intended, that the entire table be offered, to be used in any proper manner by either party, but of course the first four columns are not to be considered as our testimony as to value.

Mr. BUTLER: Yes, I understand what you are getting at; Mr. Morgan does not endorse the figures in these first four columns?

Mr. O'BRIEN: No, we don't endorse the first four columns.

The MASTER: I so understand.

Q. Defts.' Ex. UU—Morgan shown witness. That, Mr. Morgan, is a similar statement with reference to the Duluth Union Depot and Transfer?

A. It is.

Q. Prepared in exactly the same way?

A. Prepared in exactly the same way.

Mr. O'BRIEN: That is offered in evidence, in the same manner, and with the same explanation, as the last exhibit.

Q. Exhibit VV—Morgan shown witness. This is a statement with reference to the Minnesota Transfer Railway Company, prepared in the same way as Exhibit TT?

A. It is.

Mr. O'BRIEN: And that is offered, with the same explanation and for the same purposes as the last two exhibits.

Q. Defts.' Ex. WW shown witness, and I ask you, Mr. Morgan, if that is a statement of the properties of the Minnesota & International Railway Company, prepared in the same manner and upon the same basis as the last exhibits.

A. Yes, it is. I would like, however, to make this statement, that it does not include all of the property of the Minnesota & International, as that property exists today, or at least, it does not include all of the line clear through to International Falls. The valuation that I have made goes only as far as Big Falls, and since that time they have completed the line through to International Falls, and I am inclined to think that, in their exhibit in this case, they have included the value of the property between Big Falls and International Falls, which is not incorporated in my estimate.

Mr. BUTLER: From what point to Big Falls does your estimate cover?

WITNESS: From Brainerd to Big Falls.

Q. Well, is that extension known under another name?

A. Yes, it is known under another incorporated name.

Q. Then that is the fifth subsidiary property which appears in Mr. Darling's Ex. 3, is it not?

A. Well, I think it does.

Q. It is called the Big Fork & International?

A. It is called the Big Fork & International.

Q. Exhibit WW, then, covers all that portion of the road included under Minnesota & International Railway in Darling's Exhibit 3?

A. Yes.

Q. But it includes none of the property shown under the title Big Fork & International in Darling's Ex. 3?

Mr. BUTLER: That is, Mr. Morgan's figures in Ex. WW only include that part from Brainerd to Big Falls, and do I understand that the columns 1 and 3 include it all?

WITNESS: No. I was speaking in respect to that to Mr. Darling's exhibit, which was subsequently given in this case, that did include the subsidiary property of the Big Falls & International Railway Company.

Q. As I understand it, Ex. WW includes all of the property reported to you under the title "Minnesota & International Railway?"

A. It does.

Q. Since that report was made, that line has been extended from Big Fork to International Falls?

A. It has.

Q. And that extension appears in Darling's Ex. 3, under the title of "Big Fork & International Falls?"

A. It does.

Q. So that Ex. WW affords no comparison at all with regard to that portion of the line known as the Big Fork & International Falls?

A. No, neither their estimate nor mine, includes that part of the property on Ex. WW.

TORN PAGE

Q. But is a complete comparison with reference to the Minnesota & International Railway Company?

A. It is.

Mr. O'BRIEN: Ex. WW is offered in evidence, for the same purpose, in the same manner and with the same explanation as exhibits TT, etc.

Q. Now, I ask you, generally, Mr. Morgan, if the valuations as stated in these four exhibits now offered in evidence were made by you in the same manner, with the same detail and with the same care as were the valuations of the Northern Pacific Railway Company, as to which you testified at length when last upon the stand.

A. Yes; these valuations have been made with just as much attention to the matter as in the case of any of the other roads in the state.

Q. And are the values appearing with reference to those companies which I describe as subsidiary companies, and in which the Northern Pacific owns some interest, your best judgment as to the values of each item of property?

A. Yes; I have prepared the statements here just as requested, and the individual items are my best judgment as to what it would cost to reproduce them.

Q. When was the Minnesota & International Railway constructed?

A. The part of the Minnesota & International line between Brainerd—it was originally built, I think, as a lumbering road; that is, the lower part of it, from Brainerd north, for some distance, quite a number of years ago. I thought possibly the history of that road as given in the report to the Commission would give the dates, but I find that it does not. After the incorporation of the Minnesota & International Railway Company, they took over the properties and have subsequently extended it. Now, those extensions have been made within

the last four or five years, and I think I can get that exactly, if it is necessary.

Mr. O'BRIEN: I will indicate upon the map where the road is: It commences here at Brainerd, runs north to Bemidji, where it intersects the Great Northern; then it extends north; Big Fork is about where I indicate here upon the map. Since that it has been extended to the boundary where International Falls is.

Q. Defts.' Ex. XX shown witness. Mr. Morgan, Ex. XX is entirely a restatement of exhibits already in evidence, is it not?

A. It is.

Q. And simply offered for convenience. Now, will you please describe this exhibit, commencing with column 1?

A. Column 1 is a statement showing the costs of reproducing the properties of the Northern Pacific Railway Company, which has been prepared from the statement which they submitted to me in respect to their properties in Minnesota, and omitting from that statement the multiples which they used on lands for right-of-way, yards and terminals.

Q. Before you go any further, is column 1 identical with the report of the Railroad Company?

A. It is identical with figures that they turned in, so far as details are concerned, but it is not identical with the summary report that they turned in. This column 1 has been worked out from the summary report which is really shown in column 3.

Q. You say omitting multiples; did the Northern Pacific report the market value of the lands without any multiple?

A. They showed the value of their lands without a multiple.

Q. Yes, and what I want to know is: that this omission of multiple was an omission made by the Company themselves; they reported the market value and the right-of-way value?

TORN PA

A. Well, I would not like to say that the Northern Pacific returned a statement that corresponds with this; they returned details in their estimate from which this statement could be worked up, using the exact figures that they have turned in.

Q. Well now, I am speaking principally with reference to the first item, Land for Right-of-way, Yards and Terminals. I wanted to call your attention to the first item there. You say it is the report of the Northern Pacific Railway Company omitting multiples upon land?

A. Yes.

Q. What I want you to say is whether or not that omission is because of a calculation made by you, or whether that is the figure given by the Northern Pacific, without the multiple.

A. That is the figure given by the Northern Pacific in their report under the head of Market Value of Land in the detail sections.

Q. In the detail sections?

A. Yes.

Q. And in column 3 the same item is found, the report of the Northern Pacific Railway as to the value of lands, including the multiple used by them?

Mr. BUTLER: It is called "Railway Value," isn't it, in our report?

WITNESS: Right-of-way value.

Mr. O'BRIEN: I think your Honor has seen the reports of the railway companies; you have seen the blanks, at least.

The MASTER: Yes, I have seen the blanks.

Q. In the blanks upon which these reports were made, there was a column for market value of lands, and a column for right-of-way value of lands?

A. There was.

Q. Column 1 gives the report of the Northern Pacific Railway Company as to market value?

A. It does.

PAGE

Q. And column 3 gives the report of that Company of right-of-way value?

A. It does.

Q. What I am trying to get you to say, Mr. Morgan, is whether or not those figures are the figures of the Railway Company and not your figures.

A. Well, I have stated that they are the figures of the Railway Company for the individual sections, but we had to summarize them.

Q. In other words, you have found the total as given by the Railroad Company?

A. Yes.

Q. Now, column 2.

A. Column 2,—the Railway Company furnished no figures on the present value of the physical properties; column 3 is the summarized statement that they furnished on the cost of reproduction, including the multiples on lands; column 4, the Northern Pacific Company did not present any figures on present value; columns 5, 6, 7 and 8 pertain to the cost of reproduction and present value, as of December 31, 1906, which is Mr. Darling's Ex. No. 3. Under the head of column 5, that was not reported in this case without the multiples on land, nor was the present value of the properties reported; and under column 6, the present value was not reported by the Railway Company; column 7, the Northern Pacific Company, is Mr. Darling's Ex. 3 and includes the multiples on lands for right-of-way, yards and terminals; column 8, the present value of the properties, was not reported. Columns 9, 10, 11 and 12, pertain to Mr. Darling's Ex. 3 as reproduction cost April 30, 1908. Under columns 9 and 10, cost of reproduction and present value, omitting the multiples on lands for right-of-way yards and terminals, Mr. Darling gave no estimate on that basis. Column 11, as shown by Mr. Darling, Ex. 3, for April 30, 1908, does not report the subject in detail.

Q. Darling's Ex. 3, in giving the cost of reproduction and present value as of April 30, 1908, begins with the totals of items 1 to 29, does it not?

A. It does.

Q. And gives that total of $64,049,524.14?

A. Correct.

Q. So in column 11, each of the items is left blank, and the total is inserted as given by Mr. Darling?

A. It is.

Q. And from that on the amount is itemized?

A. It is.

Q. Now, go on.

A. Column 12, the Railroad Company reports no value under the head of Present Value. Columns 13, 14, 15 and 16 cover the State's exhibit of reproduction cost and present value as of June 30, 1907. Column 13, cost of reproduction, omitting the multiples on land for right-of-way, yards and terminals. Column 14, present value as deduced from column 13, showing the depreciation. Column 15 shows reproduction cost new, including the multiples on lands for right-of-way, yards and terminals. Column 16, present value of the physical properties, taking into account the depreciation.

Q. In other words, columns 13 and 14 are copied, exactly, from Ex. OO—Morgan?

A. They are.

Q. And columns 15 and 16 are copied in the same manner from Ex. QQ—Morgan?

A. They are.

Q. Turning to the second division of Ex. XX, headed "Subsidiary Properties," that is a similar comparison of the values, as claimed in this case, of the St. Paul Union Depot Company, Duluth Union Depot & Transfer, Minnesota Transfer Company, Big Fork & International Railway, and Minnesota & International Railway, except that, in each case, the total amount

stated is the proportion of the entire value of that property owned by the Northern Pacific Railway Company, as shown by Darling's Ex. 3?

A. It is.

Mr. BUTLER: That is, the figures given opposite the St. Paul Union Depot Company, on Ex. XX, is one-ninth of the total value?

WITNESS: Correct.

Mr. BUTLER: And so as to the Duluth Union Depot & Transfer Company, it indicates 100 per cent or full value?

WITNESS: Yes.

Mr. BUTLER: And the Minnesota Transfer Railway Company one-tenth?

WITNESS: Yes.

Mr. BUTLER: And the International Falls Railway the whole?

Mr. HOW: Seventy per cent.

Mr. BUTLER: Well, as to the Big Fork & International you don't give anything.

WITNESS: That is a blank, throughout.

Mr. BUTLER: The Minnesota & International is seventy per cent of the totals?

Mr. O'BRIEN: That is right, Mr. Butler, and I will explain it further,—not so much for present use as for hereafter: For instance, Ex. TT, the "St. Paul Union Depot," gives the entire value of that property, omitting all multiples, and omitting adaptation and solidification, $2,847,343.59. Now, if we turn to Ex. XX, under that same column, we find St. Paul Union Depot one-ninth ownership, $316,371.51.

Mr. BUTLER: That is under the Estimate B plan?

Mr. O'BRIEN: That is under the Estimate B plan, without the multiple.

Mr. BUTLER: And then the Estimate A is shown in like manner.

Mr. O'BRIEN: The highest value given by Mr. Morgan, in Estimate A, if you look at Ex. TT, will be found to be $4,354,201.66. That is under column 7 of Ex. TT. Now, that is carried into Ex. XX, the Northern Pacific's proportion of that, one-ninth, at $464,923.34. That is under column 32. I offer Ex. XX, and all the exhibits from TT to XX, inclusive, if I have not already done so.

CROSS-EXAMINATION.

By Mr. BUTLER:

Q. Now, Mr. Morgan, that we may the better understand what is intended to be shown by these exhibits, and the meaning that is to be given to the phraseology, especially at the top of the columns, I want to ask a few questions, even at the expense of repetition, perhaps, to make it perfectly clear on the record. Let us look, first, at Ex. TT; that is the St. Paul Union Depot Company. Now, as I understand it, it is the purpose of this exhibit to compare the St. Paul Union Depot Company's own report pursuant to your request as of the date of June 30, 1906, with your estimates made from your own sources of the same things as of date June 30, 1907, there being just a year's difference in the dates?

A. I don't think it is the same thing, Mr. Butler; that is, altogether.

Q. Well, then, I will modify my question. The things indicated in the Railway Company's side of this exhibit, that is, columns 1, 2, 3 and 4, relate to values as of date June 30, 1906?

A. They do.

Q. And the values referred to in columns 5, 6, 7and 8 relate to values of exactly one year later?

A. That is so.

Q. Now, over columns 1 and 2 you have the phrase: "Omitting Multiples on Lands for Right-of-way, Yards and Terminals?"

A. Yes.

Q. The Union Depot Company did not report anything whatever, in that particular form, or under that phraseology, did it?

A. Not in the form that it is shown here.

Q. No, nor under that phraseology?

A. No.

Q. The expression, "Including Multiples" or "Omitting Multiples" was not used at all in your directions for reports by the railway companies or any other reports to you?

A. Not that phraseology, no; but of course that fact—

Q. Yes, I understand, I will come to that; but that phraseology was not used, I will come to just what was used.

A. Yes.

Q. What you did use, as indicated by the blanks which have been shown to the Master (and I think are in evidence, if not formally offered yet,) referring to the lands for right-of-way, yards and terminals, called, first, for what was designated to be the market value, and, in a later column (I think the next column) called for what was designated to be the right-of-way value?

A. Correct.

Q. And the figures here in this column 1 of exhibits TT, UU, VV and WW, are figures which you made up by adding together the market value of the lands as claimed by the railroad companies, taken from their reports?

A. It is.

Q. Which were divided into sections?

A. It is.

Q. The railway companies, the Northern Pacific, and the Union Depot companies of St. Paul and of Duluth, the Minnesota Transfer Railway Company and the International Company, all omitted to report any material or estimate under the columns designated in your blank as the "Present Value" column?

A. That is true of all except the Minnesota Transfer Railway Company, they reported the present value of their properties.

Q. But the others that I have referred to did not?

A. The others did not.

Q. Now, coming to your side of this Ex. TT, it is captioned "The Cost of Reproduction and Present Value as of June 30, 1907." That simply is intended to indicate the date?

A. It is.

Q. Your Estimate B refers to your report, or a part of your report, to the Commission, and covers all the railroads, does it not?

A. It does.

Q. And is so designated throughout?

A. It is.

Q. And the exhibits relating to the Northern Pacific proper, taken from your Estimates B and A, both have been offered in evidence in this case, when you were on the stand last?

A. They have.

Q. But the particular details of Estimate B and Estimate A, made by you as to the subsidiary companies, have not been offered in evidence?

A. They have been offered in evidence this morning, I think.

Q. Well, yes. Until this morning?

A. Until this morning.

Q. And by these exhibits, beginning with TT and running to XX?

A. Yes, that is correct.

Q. Now, I want to find out—This exhibit is for comparison—with what column should the figures in column 1 be compared? that is, assuming that the two estimates were of same date.

A. Column 1 would compare with column 5.

Q. Column 2, if filled out by the railway companies, would compare with column 6?

A. Correct.

Q. Column 7 would compare with column 3?

A. Correct.

Q. And column 8 with column 4, had the railroad companies filled it out?

A. Yes.

Q. You did not call for any estimate from the railroad companies, in summary form, to correspond with your Estimate B, columns 5 and 6, as indicated on Exhibit TT?

A. I did not call for any summarized—

Q. That was my question.

A. —statement? No. The details, however, were shown in the reports.

Q. The details were shown in the reports, to show how they got at the right-of-way value?

A. That is correct.

Q. To show what was included for market value, and what was added to make the right-of-way value?

A. Correct.

Q. So the information that you called for in summary form —On your blank 50, was it?

A. Blank 50 or 51.

Q. Yes, blank numbered 51,—was information to be compared with your Estimate A, columns 3 and 4?

A. That would be compared with Estimate A, columns 3 and 4.

Q. So to get at the difference between you and the reporting railway companies, the Northern Pacific and these subsidiary companies, we must take column 7 and compare it with column 3, as they are on the same bases except as to dates?

A. Yes, that is true; but, of course, by going into the de-

tails you can also make the comparison between columns 1 and 5.

Q. Yes; what I am trying to get at is, the information in your column 7 was information made up in accordance with your instructions to the railroad companies as to how they should make their returns, and in conformity with the summary forms which you furnished to them upon which to make their returns?

A. That is the same basis as column 3; that is, column 7 is the same basis as column 3.

Q. And in accordance with the cost of reproduction new, called for on your summary form 51?

A. Column 3 is a statement of the cost of reproduction as prepared by the St. Paul Union Depot Company and submitted.

Q. Yes, and as called for by you on the blank furnished which was numbered 51?

A. Yes.

Q. And what is true as to one company is true as to all; that is, the Northern Pacific and these subsidiary companies, in that regard?

A. Yes, that is true.

Q. The idea of omitting the multiple, as it is now called in this testimony and in these exhibits, was never in any of your instructions to the Railroad Company here under consideration, or any of the railroad companies, referred to at all, was it?

A. No.

Q. Estimate A was the estimate first prepared?

A. It was.

Q. And included the multiples?

A. It did.

Q. And the item No. 29, adaptation and solidification of road-bed?

A. Yes.

Q. And that estimate expresses your opinion of the cost of reproduction new of these properties and the present value of it?

A. Well, I don't know that, under the circumstances, I am entitled to an opinion.

Q. Well, you have testified this morning, Mr. Morgan, that these figures represented your opinion as to the individual items of cost of reproduction; now, I want your opinion as to the cost of reproduction.

A. Well, as this work proceeded, I found that intelligent men differed in their ideas as to what constituted cost of reproduction, and I fully realized that it was not—that, in the capacity of an engineer, it becomes my business to furnish data and to do so as I am called upon. Now, this work, as it was originally contemplated, was carried out in Estimate A. My individual opinion on that might not be so crystallized at this time that I would feel entirely justified in expressing an opinion. I think it all depends upon the way the matter is looked at, and I recognise that it is not for me to decide which of the several bases, that may be taken as representing the cost of reproduction, shall apply.

Q. I know it isn't, but I want your opinion about it. I want it just as I put the question.

Mr. O'BRIEN: You mean his opinion as to what the legal interpretation of the term "reproduction" is?

Mr. BUTLER: I think the question is clear. Now, there are two figures here.

Mr. O'BRIEN: We desire to object to the witness being called upon to express his opinion upon a purely legal proposition, particularly under the circumstances, that he has disavowed—

Mr. BUTLER: I withdraw that question in that form, Mr. O'Brien, and will come at it in another way, I think.

Q. The principal differences between your figures in Esti-

mate A and Estimate B arise from the items 1 and 29, do they not?

A. Yes.

Q. Now, let us refer to item 1, which is Lands for Right-of-way, Yards and Terminals. The figures in your Estimate A of that item are the same as to cost of reproduction and present value?

A. They are.

Q. That item expresses your opinion, does it not, as to what it would cost as of the date of your estimate, June 30, 1907, to procure the lands for right-of-way, yards and terminals?

A. Yes, it does under Estimate A.

Q. Yes. And I say your figures under Estimate A express your opinion of what it would cost, as of date June 30, 1907, to procure the lands for right-of-way, yards and terminals covered by the figures?

A. Yes, that is so, assuming that it was necessary to go out and reproduce these railroads.

Q. Yes, sir, assuming that they are to be reproduced.

A. Yes, sir, including the lands which would have to be purchased.

Q. And the figures included in item 29, under the head of Adaptation and Solidification, express your opinion of the amount that it would cost, in addition to the other items indicated on your summary blanks, to bring the road and property into its present state of adaptation and solidification of the road-bed, the money it would take to do it?

A. Yes.

Q. Now, if somebody is to define the cost of reproduction as not getting the lands, then, of course, some other figures might express your views of that subject?

A. Yes.

Q. And if somebody is to understand that adaptation and solidification, as you have defined it in your testimony here-

tofore, is not to be paid for in reproducing the property, why then you think that item might be omitted, as you have done in Estimate B?

A. Yes; as I previously stated, that Estimate B has been prepared under direction of the counsel for the Commission and I have done that just as they wished it.

Q. That is, as you very properly state, at their request, to furnish the detailed facts and figures upon any possible view that may be taken of the situation that has been suggested?

A. That becomes the duty of an engineer—to furnish information.

Q. Yes, I understood that; but now, as to your individual views, Mr. Morgan, you have told me that your Estimate A figures include your individual views of reproducing the lands for right-of-way and terminals, under item 1 of your blank, if they are to be reproduced.

A. Yes.

Q. And under item 29, adaptation and solidification of roadbed, includes your views of what it would cost, in addition to the other items expressed, to bring that road to the condition in which you found it?

A. Correct.

Q. So that if anyone wants to assume that track-scales are not necessary, or office furniture and supplies are not necessary, or telegraph lines or signal apparatus are not necessary, you have furnished here the basis for them to get at the figures by leaving those out?

A. Well, I don't think that would be a fair comparison, Mr. Butler.

Q. But your figures would enable them to get at that, just exactly as it would enable them to get at some estimate on amounts that are not sufficient to reproduce the lands?

A. Well, of course, there are certain limitations to which an engineer can go, as well as others, and I must say that no

such unreasonable demand has been made upon me as to leave out track-scales and other items of that kind.

Q. No, but your figures would enable one to do it at a glance, would they not?

A. That can be done, of course; you can eliminate any individual item there, but the ones upon which questions have been raised appear to be those which were represented to me as being susceptible only of legal determination, and that constitutes the reason why the matter was presented on both bases.

Q. Yes, but I wanted your opinion that has been called for as to the cost of reproduction, and I think I am satisfied with the answers you have given in regard to those two items that make the difference. Those are the only two items that make the difference, are they not?

A. Those are the two items that make the difference.

Q. Now, then, you have not, here, I take it, the sectional map by which you got at the value in your Estimate A of the lands for right-of-way, yards and terminals of the St. Paul Union Depot Company?

A. No, I haven't that here. I think I gave some testimony, however, in the Northern Pacific case, in respect to—

Q. Yes, you did refer to it.

A. —to the cost of the lands of the St. Paul Union Depot Company.

Q. As I compare columns 3 and 7 here, there is $1,200,000 difference between you on that item?

A. Yes.

Q. Now, you got at that by the sales-method?

A. Yes; that was done by the sales-method. I should be very glad to work up the details of that fully and present it to the Court.

Q. You can't give the acreage there, now, or anything like that without getting the map?

A. No, I haven't those figures with me; I didn't anticipate

that the details of these was going to come up today. I have some data here in respect to the Minnesota & International.

Q. Well, there is very little difference between you on that, I think, comparatively little. Now, as I understand it, the difference between you and the St. Paul Union Depot Company, in total, as shown by column 7 and column 3, is about $1,100,000?

A. Yes.

Q. The total difference is a little less, as I glance at it, than on land alone?

A. Yes, there are some items that I think we increased a little bit over the returns made by the Railroad Company.

Q. And that Company made nothing in column 4 to compare with column 8?

A. No.

Q. Can you, at the later session today, give us the way you get at the valuation of the lands in the Union Depot Company, this afternoon?

A. Well, I hardly think I could get that ready, Mr. Butler, for this afternoon.

Q. What I want to get at, Mr. Morgan, is the basis of your sectional map, if you used it, and the tracts you took into account, in fixing your unit of value there.

A. Yes.

Q. Now, let us look at the Union Depot and Transfer Company. Comparing columns 7 and 3 there, is the way to do it, isn't it?

A. Yes.

Q. And columns 8 and 4?

A. Yes.

Q. Now, the difference between you in totals is—

A. Is about $100,000.

Q. Out of a valuation of a million?

A. Yes.

Q. And that difference there arises, about $40,000 on the value of the land?

A. About $40,000 on the value of the land.

Q. And where is the other substantial difference?

Mr. How: Contingencies, $48,000.

A. Yes, contingencies make pretty much all.

Q. And what percentage did you allow for contingencies?

A. Five per cent.

Q. That is the same with respect to the construction of the Duluth union depot as to the construction of railroads out across the prairies, the same percentage?

A. Yes, used the same percentage there.

Q. That depot is located between the lake and the bluff, at Duluth?

A. Well, it is located just at the foot of the bluff; it is not located on poor ground at all. The location of the depot itself is on very firm, substantial ground.

Q. You think there would be no more contingencies in the construction of such a railroad than there would be in constructing a road across the level prairie?

A. No, I don't think so. The fact of the matter is, I don't think there would be so much.

Q. Well, maybe a prairie construction is one in which the contingencies are high; is it?

A. Not necessarily so; it all depends upon circumstances.

Q. Can you tell us whether or not you agreed substantially with the Duluth Union Depot & Transfer Company with respect to their quantities, their acreage of lands, and the number of ties and the amount of grading and the quantity of ballast and the like,—whether or not it is all a difference of price or a difference of—

A. I think it is pretty much a difference of price; yes, the differences were made up pretty much of price.

Q. Well, is there anything—and I don't want to go into

the figures if I can avoid it—of substantial amount, in quantities, and if so, under what items?

A. I think the two principal items, Mr. Butler, upon which there is a substantial difference, relate to the contingencies and to the lands.

Q. Look at the item of ballast there.

A. Yes. Well, there is quite a difference in ballast, too. That yard is pretty well ballasted with cinders, as I recall the details of that. The figures that were put in by the Duluth Union Depot & Transfer Company were the same that were used by the Northern Pacific, which I found to be very high in a good many cases.

Q. What was your figure on ballast?

A. $2,944.24, I think.

Q. Against $7,000?

A. Yes, against $7,000.

Q. Have you the yardage of ballast and the amount per yard handy?

A. No, I haven't that report here.

Q. Suppose, then, you look at that and we will take that up at a later time today, if we can, so as to just get at, as briefly as possible, what the trouble is there between you. Take Ex. VV. That is the Minnesota Transfer. Compare column 3 with column 7.

A. Yes; well, there is a very large difference in the value of the lands which are utilized by the Minnesota Transfer Railway Company. Now, I should like to make this statement: That when the report of the Minnesota Transfer Railway Company was submitted to me, in the first place, they had put in the value of all of the lands owned by that company at $2,500 an acre. About that time the Sundberg Senate committee called upon me for details as to the cost of the lands owned by the Minnesota Transfer Railway Company, and I was obliged to make public my findings at that time, which showed

that my estimate of the cost of reproducing the lands owned by the Minnesota Transfer Company was about a thousand dollars an acre more than they had turned in.

Q. About $3,500 are your figures?

A. $3,600. As a result of that being made public, the Minnesota Transfer Railway Company, through Mr. Samuel C. Stickney, who was then its president, asked permission or asked leave to file a supplemental report, showing the value of the property owned by the Transfer Company. Well, I had no objection to their doing that; the whole matter had been started, I think, from the fact that I had found more value there than they had returned. The matter had been pretty fully canvassed by the superintendent of the Transfer Company, and he understood the situation pretty well; but the supplemental report was filed and the result was that the supplemental report makes up the difference which we now find—that instead of my estimate being higher than the values turned in by the Minnesota Transfer Company, I find myself in a position where I am about one-quarter what they have turned in.

Q. Well, do you still stick to your opinion that the figure $919,000 (disregarding the hundreds) is a sufficient sum of money to reproduce that property, that land, as of June 30, 1907?

A. Yes, I do. I think it is a very liberal figure for it. There is a very considerable part of the property of the Minnesota Transfer today lying to the west of it that is a swamp, that is a lake. Its availability for railway uses, has been recognized, inasmuch as I have put that land in at the average value for the entire strip; I took into account some 314 acres of land lying north, east, south and west of the Transfer, upon which to measure the value of this property. Now, to the west of the Transfer there has been quite an extensive activity in real estate movements. Prices have advanced in that particular

section quite remarkably; and it was for that reason and by reason of the fixed location of the Transfer property, not extending through the city, that I made a special case of that and considered it according to the conditions that were found there.

Q. Could you present to us, by means of your map and your sectional methods that you have described in the Northern Pacific case, just the details of the considerations upon which you based your opinion of value there?

A. Yes, I think I have that data substantially worked out. I wouldn't want to say that I could give it this afternoon.

Q. But very soon you could, anyway, could you?

A. Yes, I think I can do that very soon.

Q. Now, that leaves a difference of land values of about $2,500,000 and the difference, on the total, is only about $2,900,000, is it? Inasmuch as the Northern Pacific is only a one-tenth owner here, these differences are not all chargeable to it, and we will not spend too much time, but I would like to have you also indicate,—Have you there a table showing the differences?

A. Yes, I have a table here that shows the differences.

Q. Now, are there any substantial differences in quantities, first, of the land?

A. No, there are no substantial differences connected with the land.

Q. Nor in quantities of anything else, is there?

A. No, I think not. I think that the quantities ran pretty generally uniform.

Q. So the differences are all of price?

A. Well, principally of price, yes.

Q. And do you apply in this case the same prices that you did in the Northern Pacific case, those units of prices that have been discussed in your testimony?

A. Except the carrying charge.

Q. Carrying forward charge?

A. Well, substantially the same prices, for St. Paul and Minneapolis, were based for distributing the materials entering into the construction.

Q. What was your price on ties?

A. 70 cents for oak ties at St. Paul.

Q. Did you ascertain what the Company paid, during the year 1907, for oak ties at St. Paul, this particular Company?

A. No, I think not.

Q. That was one of the substantial items of difference, wasn't it, the value of ties? one of the large items, isn't it?

A. There was only a difference of $34,000 out of $154,000.

Q. About twenty per cent?

A. Yes.

Q. It would be about 14 or 15 cents a tie, wouldn't it?

A. Yes, something like that.

Q. That is quite a difference on ties?

A. Well, here is the report of the Minnesota Transfer for the year,—

Q. It would be about twenty per cent on a tie, it would be more than twenty per cent, wouldn't it, on a 70-cent tie?

A. Here is the sworn report of the Minnesota Transfer Railway Company to the Railroad & Warehouse Commission for the year ending June 30, 1906, in which the oak ties are reported at 70 cents, the tamarack ties at 45 cents, the cedar ties at 52 cents, and hemlock ties at 45 cents.

Q. There is where you got the prices, was it, Mr. Morgan?

A. Not necessarily out of here. I just merely refer—

Q. But did you use these prices in this estimate?

A. I used 70 cents on oak ties.

Q. On cedar?

A. On cedar we used 60 cents, as I recall.

Q. You raised their sworn statement?

A. This sworn statement had nothing to do with it. I am

just referring to this statement, at the present time, as to what their report shows as to the cost of ties.

Q. Well, go on; what were the other ties?

A. Tamarack ties 45 cents.

Q. What did you put them in at?

A. I think ours were 45 cents, as I recall; and hemlock ties 45 cents.

Q. So you took their prices as they appear there except as to cedar, and that you raised?

A. No, I didn't take those prices, Mr. Butler. The prices we arrived at, as I stated in my testimony in the Northern Pacific case, were arrived at from considering the prices that had been turned in for ties by the different roads, and, of course, I looked up what the Roads were actually paying, in their sworn statements in regard to ties, and sought to get information along the lines I could, to get the fair prices.

Q. Well, as a matter of fact, you didn't have these figures before you at all, did you?

A. What figures?

Q. That you have just now referred to,—at the time you made your prices on the Minnesota Transfer ties?

A. No, I think not; I don't recall looking at them.

Q. Since these differences have come to your attention, you have gathered together all the data on the subject that you can, to see whether you are right or not, haven't you?

A. No, I will tell you, Mr. Butler; I did take up the question of ties with some roads, the cost of them, as given in their sworn statements to the Commission. I am not seeking especially to work out additional information other than what I have already gleaned from—

Q. Now, is there any difference in the track-laying item, item 10?

A. Yes, there is quite a difference in track-laying; about $21,000 in respect to that.

Q. What percentage would that be, approximately?

A. Well, it would be about twenty-five or thirty per cent, somewhere along there.

Q. How much did you allow per mile of track?

A. I think it was $600, including the switches that had to be put in.

Q. Including the switches?

A. Including the switches, yes.

Q. There were a number of switches out there—would be very high indeed?

A. Yes, a great many switches.

Q. Well, eliminating the switches, can you tell us what it would be? Can you tell, off-hand?

A. I don't recollect that now, Mr. Butler; I think I have that up in my office.

Q. Now, take Ex. WW, the Minnesota & International Falls; comparing columns 7 and 3, there is not very much difference, is there?

A. No, except the Minnesota & International took the prices which the Northern Pacific Company had turned in. For example, they had put their ties in at 75 cents and I had data that had been furnished by Mr. Darling, showing the cost of ties up there about 18 and 19 cents. They get ties right along that line of road; it is a tie country.

Q. What did you allow for ties there?

A. I allowed on the oak ties 70 cents at St. Paul, plus the transportation charges. On the other classes of ties we allowed the prices which had been allowed other lines of road, but omitting the transportation charge because the ties were to be had right there along the line.

Q. Because it was a wooded country?

A. Yes.

Q. So you took the market price you got at St. Paul?

A. Or the Duluth price.

Q. Or the Duluth price?

A. Yes, that was for soft ties; most of them were soft ties up through that country. And on ballasting, the prices put in by the Minnesota & International on the ballasting didn't appear to me to be reasonable figures, because a good deal of the ballasting, particularly on forty miles of it, running between Brainerd and Backus, was sand, cast up from the sides, and we allowed a very liberal price on the ballasting there. I think, according to the statements that were furnished the Sundberg committee in respect to the ballasting of the line between—well, from Bemidji to Black Duck and from Black Duck to Northome, it runs about five or six hundred dollars a mile; I think our figures run about $1,492 a mile on the ballasting there. I couldn't bring myself around to believe that the figures that had been put in for the ballasting on the Minnesota & International were borne out by the way it ought to be able to be done. The price of locomotives on the Minnesota & International, I think, was pretty high. We reduced that some. And the lands through the towns up there were put in at a very high figure. The conditions didn't seem to justify any such high figure as had been put in in places. I don't think there is very much difference so far as the grading is concerned, and I think my average cost of the grading on that line is about 29 or 30 cents. Some of it was done for 34 cents, and some of it was done for 24 cents.

Q. Contractors' price?

A. That was the cost of the work.

Q. Was it done by contractors?

A. I couldn't say that that was the contract price.

Q. Was it done by contractors?

A. I think it was; I am inclined to think so.

Q. Where did you get your information that it was the cost? That is what I am trying to get at,—that some of it was done

for 34 cents and some for 24 cents. Was that reported by the Company to you?

A. That was reported in a statement that was furnished by Mr. Darling to the Sundberg Senate committee on the cost of building those lines between—

Q. Well, do you know whether Mr. Darling intended to indicate that to be the total cost or the contract price paid?

A. The statement is headed "Cost of Line Black Duck to Northome."

Q. What does he say?

A. He says "Earth excavation 281,731 cubic yards at 34 cents; extra haul on 372,000 a cent and a half," giving the total cost of that.

Q. Now, could you tell, from that statement, whether that purports to be the contract price or the total?

A. I couldn't say.

Q. From the fact that it mentions the item of extra haul, it would look as if it was the amount paid to a contractor, wouldn't it, and not including the whole thing?

A. Well, if it were done under contract, it would. Then, on the line between Bemidji and Black Duck, he has the excavation put in "Earth excavation 790,832 cubic yards at 25½ cents."

Q. Any extra haul stated there?

A. No.

Q. Was it from this report that you got at your figures?

A. No, I am just merely making this statement now.

Q. Did you take the figures into consideration at all in getting at this? You had this information before you.

A. Yes, I had that information before me.

Q. And you used it for what you considered it to be worth?

A. Yes, but it was my own judgment in respect to what that work ought to cost up there to do the grading.

Q. Now, with respect to this Ex. XX, I think perhaps it has been fully explained so that it is clear, but let us make sure

about it. This statement is based wholly upon other statements that have been offered in evidence in this Northern Pacific case; am I right about that?

A. Yes, that is correct.

Q. So that, without taking time now to check up any of it, it ought to be capable of being proved up by the things that the Master has before him in evidence?

A. It should.

Q. Every item of it?

A. Yes.

Q. And this is simply your computation and statement of the results of your computations based upon exhibits in evidence?

A. It is.

Q. So that if there is a difference between any of the figures given in the particular exhibits and these, why, this has to yield to the original base?

A. Well, I should say so, yes; that would be correct.

Q. It is just for our convenience in getting at this. Now, Mr. Morgan, you have three subdivisions of information, all coming from the railway companies; one relating to the reproduction cost June 30, 1906?

A. Yes.

Q. One December 31, 1906?

A. Yes.

Q. And one, April 30, 1908?

A. Yes.

Q. And your estimate, which is of a date not like any of them, June 30, 1907?

A. Yes.

Q. So that the mere differences, on the face of the comparison might possibly be explained or explainable, in some instances by the difference of the dates, by the additions or deductions from the property?

A. I think that is so; that some of the differences are due to differences in the physical elements that were taken into account.

Q. Now, this cost of yours, column 1, is gotten at in the same way that column 1 was gotten at in exhibits TT, UU, VV, and WW, to-wit, from the sectional details of the report of the Northern Pacific and these subsidiary companies?

A. Yes.

Q. And what we have said with reference to Ex. TT at the commencement of this examination in regard to that column 1 and its comparison with column 13—is that the one?

A. That is correct.

Q. —applies here?

A. It does.

Q. Column 2, if filled out, would compare with 14?

A. 14.

Q. Column 3 with 15; am I right about that?

A. Yes.

Q. Column 4, if it had been filled out, with your 16?

A. Correct.

Q. Column 17 with what—with your 29?

A. Correct.

Q. And 18 with 30?

A. Correct.

Q. And 19 with 31?

A. Correct.

Q. And 20 with 32?

A. Correct.

Q. Now, in like manner, columns 5, 6, 7 and 8, are to be compared, as far as they are filled out, with your columns 13, 14, 15 and 16, respectively?

A. Correct.

Q. And 9, 10, 11 and 12 are to be compared with 13, 14, 15 and 16, respectively?

A. Correct.

Q. And so 21, 22, 23 and 24, are to be compared with 29, 30, 31 and 32, respectively?

A. Correct.

Q. And 25, 26, 27 and 28 are to be compared with 29, 30, 31 and 32, respectively?

A. Yes.

RE-DIRECT EXAMINATION.

By Mr. O'BRIEN:

Q. Mr. Morgan, you have said, in referring to Ex. TT (and the same statement applies to each of these exhibits which have been introduced this morning) that column 1 of Estimate A, which, in the case of the Northern Pacific Railway Company exhibits, is Ex. QQ—Morgan, gives your opinion in the first item as to the cost of procuring the land owned by the Northern Pacific Railway Company if it was necessary to procure that land at this time?

A. That is correct.

Q. Is that upon the assumption that the Railroad Company has not the land and is not in existence?

A. It is upon the theory that they would have to buy the land for their railroad; if they did have to buy it they would have to pay more for it than its normal value.

Q. And upon the theory that even although the Railway Company were not in existence and did not own that land at the present time, that the land would still be of the normal true value which it is at present?

A. It would have to be so assumed.

Q. Well, is that a part of your assumption?

A. I say it would have to be assumed.

Q. And it was so assumed by you?

A. Yes.

Q. In answering that question?

A. Yes.

Q. And from the fact that the Railroad Company would be compelled to pay more than the normal or true value, you have come to the conclusion that, upon that assumption, and under those circumstances, it would be compelled to pay the amount set out in Ex. QQ?

A. Yes.

Q. Now, I ask you whether or not, in your opinion, the first column of Ex. OO and the corresponding column in these various exhibits, under the head of Estimate B, gives, for the first item, your best judgment and opinion as to the true or normal value of the lands owned by the Northern Pacific Railway Company and these subsidiary companies, respectively.

A. Yes, it does.

Q. So that the statements of Ex. OO give your best judgment as to the true or normal value of those lands at the present time?

A. It does.

Q. And the statements found in Ex. QQ give your opinion as to what the railroad companies would be compelled to pay, over and above the true or normal value, if they were compelled to purchase the lands at this time, and the lands at the time of the purchase were of their present true or normal value?

A. Yes.

Mr. BUTLER: You don't mean over and above; you mean in the aggregate, don't you? that would include the true normal value and the other.

Mr O'BRIEN: Yes.

RE-CROSS-EXAMINATION.

By Mr. BUTLER:

Q. Mr. Morgan, in your re-direct examination by Mr. O'Brien just now, you have introduced a new phrase into the examination, for this morning, at any rate, which is denominated "true value" or "normal value." Now, you didn't call upon the railroad companies in your blanks for any expression of

their views as to true value, did you?

A. No.

Q. In that phrase?

A. No.

Q. Or as to normal value, in that phrase, did you?

A. No, the words "market value" were used.

Q. And by the use of the words "market value" in your forms (the question I wanted to come to) you intended to mean and to have them understand precisely what you mean and now want us to understand by the phrase of the "true value" or "normal value"?

A. Yes, I think that is so. I have wanted to use the word "true" or "normal" value, for the reason that it appeared to me to be a better term to use than "market value," inasmuch as my investigations had been based upon the transfers of property. Now, the market value of lands, if we so consider it, might be the asking price; it also might be the selling price; but we do know that from the transfers it is what the property has actually sold for; therefore, by the use of the words "true value" we are accepting what the properties, what the lands adjacent to the line of the Northern Pacific Road have actually sold for. The definition of value is a very difficult thing, especially when you come to lands; and I think that Prof. Adams, in his address before the Minnesota Academy of Social Sciences, has expressed himself on that subject very intelligently. I cannot recall all that he has said in that connection, possibly it might not be well for me to attempt to repeat at all what he has said—

Mr. BUTLER: I don't believe it would be.

WITNESS: —but it is a very interesting discussion of the subject; and, furthermore, in all of the investigations which have been made along the line of using sales as a basis for getting land values, those who have entered upon that subject have always used the words "true value."

Q. Well, now, to make a long story short, Mr. Morgan, I want you to tell me now, whether or not, by this "true value" you mean market value. You have changed your exhibits by scratching out the word "market" and stamping in lieu thereof the word "true." Now, I want to know whether you intended to change the meaning from what is the correct meaning of market value and to limit it to a value which is arrived at by this method which you have used and so carefully described to us heretofore in your examination in this lawsuit. I am persuaded that you cannot think that they are the same or you would not have changed the phrase from the time you asked the report from the Railroads until the time you testified.

A. Well, I don't know that I can answer that question, Mr. Butler. It is a very difficult question for me to answer.

Q. Well, let it go, then.

A. I have carried this hypothesis through upon a given basis; in other words, I have tried to establish a relation from the beginning that would bear continuity through these successive steps to the final result. Now, to define any part of that as representing market value, I should say that it would be very difficult to do so. The whole proposition is one which I have gone into by reason of being able to carry it through the successive steps, and I can say this: that, in some cases, it might represent the market value and in other cases it might not.

Adjourned until the morning of Tuesday, February 2nd.

FEDERAL BUILDING, St. Paul, Minn., Tuesday, February 2, 1909.

Hearing resumed at 10 o'clock A. M.

DWIGHT C. MORGAN,
recalled for further cross-examination, testified:

By Mr. BUTLER:

Q. Now, Mr. Morgan, this map is called, in your system of numbering, what?

A. It is map No. 1 of the terminal maps of the city of St. Paul.

Q It shows all of the land of the Union Depot Company in the city of St. Paul?

A. Yes; it shows not only the land of the Union Depot Company, but also some of the other lines who also own property in that vicinity.

Q. The land of the Union Depot Company lies between the Mississippi river, on the south, and East Third street, on the north?

A. Correct.

Q. And it is bounded on the west by Sibley street?

A. It is.

Q. And on the east by what line?

A. By Brook street; you might say Brook street produced, practically.

Q. By these heavy broken lines—

A. Yes.

Q. —indicating the boundary. The Union Depot Company does, or does not, own all of the lands which I have referred to between Third street and the river and between Sibley street and Brook street extended, this dotted line?

A. No, sir.

Q. It does not own it all?

A. It does not own all of the land.

Q. The Chicago, Milwaukee & St. Paul Railway Company owns the river front?

A. They do.

Q. Is the area owned by the Union Depot Company indicated by any boundary lines upon your map?

A. In section two of map No. 1 it is indicated as lying within the yellow, between Sibley street and Broadway produced, and within the yellow between Broadway produced and Brook street.

Q. See if I trace the lines bounding the Union Depot Company lands with the end of this pointer (indicating).

A. Correct.

Q. And you have subdivided it into two sections, which are numbered 1 and 2?

A. Yes. There are three sections, Mr. Butler; there is a little strip in here, just below Brook street.

Q. Just a little wedge in there?

A. Yes.

Q. What is the total area of the land owned by the Union Depot Company?

A. 16.79 acres.

Q. Can you give us the total area by sections of your map; that is, in Section 2 and in Section 1 and of the Union Depot Company's property in Section 3?

A. Yes; Section 1 contains 9.58 acres; Section 2 contains 6.63 acres; Section 3 contains .58 of an acre.

Q. Your reproduction cost is $3,069,000, in round figures?

A. Yes.

Q. In getting at the value, did you consider each unit of area of the whole tract owned by the Union Depot Company as of the same value?

A. Yes, it was an average value for each section.

Q. Well, that is not what I asked. The units of area in Section 1 were valued at one price, in Section 2 the units of area valued at another, and in Section 3 at still another?

A. Yes.

Q. What was the unit of area taken, a square foot?

A. My values have all been made up on an acreage basis; I think, however, in my testimony in the Northern Pacific case, that I gave some figures showing the cost per square foot.

Q. Yes, it would be readily ascertainable?

A. Yes.

Q. What was the price per acre established by you in Section 1?

A. The true value of lands in Section 1 was established at $80,706, per acre. The railroad value, using the multiple of one and three-quarters—

Q. That is, you mean by that, the cost of reproduction new, as you have it on Ex. TT?

A. Yes, $141,236.95 per acre.

Q. Now, give us the same information as to Section 2.

A. True value, $144,685.

Q. And the reproduction cost new?

A. $217,027.

Q. The same information as to Section 3.

A. True value, $37,247; railroad value, $65,182.

Q. The method employed by you in getting at this value, is the method which you have described heretofore in this case?

A. It is, yes, the sales-method.

Q. The sales-method. In getting at the value of the land in Section 1 on this map, please point out your criteria, that is, the tracts in that section that were sold within the last five years and upon which you procured the selling price and

made your computation.

A. The base used for the St. Paul Union Depot was the same that we applied to the city. We used that because our investigations, as to the sales within that particular territory covered by Section 1, were substantially the same.

Q. Well, I don't think you quite understand my question, or I didn't make it clear. In this method employed by you, you start out upon the assumption that the relation of the assessed value to true value in the whole city is 60 per cent?

A. Yes; I say we applied the 60 per cent here, but that 60 per cent is also borne out by the sales which we took into account in Section 1. Now, we had—

Q. I wasn't going into the justification of the 60 per cent at all, but I simply called for the particular tracts in Section 1 that were sold and the selling prices of which you took as the criteria for the establishing of the value of $141,000 per acre reproduction cost and $81,000 market value.

A. We had, in Section 1, eight sales of property, that aggregated, on the sale price, $180,600. The assessment on the real estate, on those tracts sold, was $56,815; the assessments on the improvements amounted to $44,000. Now, then, upon the basis of the lands representing 60 per cent, the improvements 50 per cent, and raising the values on the real estate and the improvements on that basis, we get $184,187, as representing the true value of those particular lands which actually sold for $180,600.

Q. Well, let me see if I have followed your figures right. The aggregate selling price, improvements and all, was $180,000, in round figures?

A. Yes.

Q. The assessed value, improvements and all, was $56,000?

A. No; the assessed value was $56,800, plus $44,700.

Q. It would be $100,000, then?

A. About $100,000. Now, when that is raised—

Q. Then you took the aggregate value of the assessments of the improvements and divided that by forty to get the true value, as you call it, of the improvements?

A. Divided it by sixty.

Q. For the improvements?

A. Fifty for the improvements; and it doubled the improvements to bring them up to the true value.

Q. That is, you took the assessed value of the improvements and divided it by what you considered to be the percentage relation of assessed value of the improvements to the real value of the improvements in the city at large?

A. Yes.

Q. And that was 40 or 50?

A. 50.

Q. Then you took the aggregate value of the land as assessed, and divided that by 60 to get at what you call the true value of the land?

A. Yes.

Q. And that, you say, made it $184,000?

A. It did.

Q. And how much per acre, $81,000?

A. No, oh no; it would be about $150,000 an acre for those particular sales.

Q. Yes. That is, in Section 1 you found eight sales, and, applying your system to it, you established the true value as $151,000?

A. No.

Q. Per acre?

A. No; that was just the price per acre that that particular property sold at.

Q. I mean that particular property sold.

A. Yes. Of course, when I got my value I didn't take

those sales at all; I took the assessed value on other property. I didn't arrive at it in that way at all.

Q. Let us go a step at a time, and we will see if we understand it. This Section 1 includes from the Mississippi river to Sixth street?

A. Yes.

Q. The lands of the Union Depot Company in that section are bounded on all sides by land which is used, and which has long been used, exclusively, for railroad uses?

A. It has.

Q. As we have heretofore said, on the south by the property of the Milwaukee Company?

A. Yes.

Q. On the north it is bounded by the property of other companies, the Great Northern, the Omaha and Northern Pacific, before you get to Sixth street?

A. Yes.

Q. And bounded on the east by some more railroads; whose property is that?

A. That is the Burlington, right in there.

Q. And bounded up here on the north by some more Union Depot Company's property?

A. Yes.

Q. Now, in that section, some distance away, and on Third or Fourth street, where were the eight sales that you took into account? Just in the blocks is all I want, Mr. Morgan, if you will give us the boundary lines by streets so we can pick out the blocks on the map.

A. We had three sales in block 45.

Q. That would be the block bounded by Broadway and Fifth and Pine and Fourth?

A. Correct. We found sales in block 46, which would be bounded by Fifth street, Olive street, Pine street and Fourth street.

Q. How many sales in that block?

A. Four sales in that block.

Q. That makes seven, all together?

A. Yes; I should have said four sales in block 45, instead of three.

Q. So that makes the eight sales?

A. That makes the eight sales, yes.

Q. So that all of the sales criteria that you had to go by, in this particular section, were taken from the two blocks marked 45 and 46, in this Kittson's addition?

A. That is practically all of the property that lies within that section that is not at the present time owned by the railroad companies, and is right up in that vicinity of the section.

Q. Well, that was the only sales criteria you had to go by, anyway?

A. The only sales criteria in that section, and, as I say, it bears out in general, the 60 per cent ratio.

Q. And, testing the values by these sales criteria, you find a market value of $151,000 per acre?

A. Yes.

Q. Now, if we are to assume that all of the land (and I understand that is your assumption) in Section 1 is of the same value, then, $151,000 per acre is the value to be placed upon each acre in that section?

A. No; I made no such assumption.

Q. Well, I got the impression from your testimony heretofore, Mr. Morgan, that that was the assumption, but if it was not, we will let that go, we will not go into the theory now; we just want to get the facts that apply. Having established, by an examination of the sales, an average market value per acre of $151,000 per acre, in land embraced in this same section, you did, finally, reach the conclusion that $81,000 per acre was the right price for the Union Depot

Company's market value of its land in that section?

A. I didn't find it from that, by any means.

Q. No, but you did reach that conclusion?

A. No, sir, not at all.

Q. I got the impression that you told me Mr. Morgan, that the market value, or what you call the true value, of the acreage in Section 1 of the Union Depot Company's land here, was $81,000 per acre.

A. That is correct.

Q. I also got the impression that you established that $151,000 per acre was the market value at which lands sold in this same section, in blocks 45 and 46 of Kittson's addition, during the last five years.

A. That was simply done to test, as far as the sales would permit us to do so, the accuracy of the application of 60 per cent upon the assessed value of the property in that section.

Q. I see. That is, you took these sales for the purpose of proving up your 60 per cent?

A. That is the idea.

Q. But not for the purpose of establishing the value per unit of area?

A. No.

Q. Well, now, having again established, to your own satisfaction, the correctness of your 60 per cent, then what next did you do, in this particular section?

A. I took the assessed value represented in this property here.

Q. In Section 1?

A. In Section 1, through here (pointing) as a basis; raised the assessed value to the true value, then I took the reports of the railway companies. It, being, perhaps, difficult for me to measure with exactness how much this property here which had long been utilized for railroad service was worth, I took the reports of the railway companies, and, be-

ginning with their figures, I worked out, or interpolated from their figures, what the rate of increase was through that territory to the Union Depot property. I found, from their own figures, that the property of the Union Depot Company was worth what the Northern Pacific Company turned in, plus about 43 per cent, from their own figures. Then, after having established the rate of increase by that plan of interpolation I took my own base for value and interpolated the percentages of value to increase correspondingly, as they did in the reports of the railway companies, the only difference being that my base begins with a different figure than the base established or placed upon it by the Railway Company.

Q. Now, is that all?

A. That explains the plan upon which that increase of value was established.

Q. The value of the property in this vicinity, I got the impression from you heretofore, increases as you approach the river?

A. In the reports of the railway companies.

Q. And from the reports of all the railroad companies, taken in the aggregate, you averaged up and found the rate of increase of value as you advanced in the direction of the river from Seventh street?

A. Yes.

Q. And you found that to be 43 per cent?

A. Well, about 43 per cent, yes,—increase.

Q. Per block or what?

A. 43 per cent increase from the value established here (indicating).

Q. That is, from the value established at Sixth street?

A. Yes, between Fifth and Sixth streets.

Q. The Northern Pacific owns something between Fifth and Sixth, in this section?

A. Yes, they own all of that property from Brook street

right up there to John, and up through the alley line to Broadway.

Q. It is not now, according to this map, being employed for railway uses, excepting in the alley?

A. Well, it is, I think,—

Q. Now developed, is it?

A. I think this property in here is developed into a wholesale coal industry, and then Swift & Company and Nelson, Morris & Company are up in here at Broadway, and that track going through there is to facilitate those industries.

Q. So you took, as I understand it, the report of the Northern Pacific property on the tier of blocks between Fifth and Sixth streets, from Broadway to Kittson, as a starting point, and then you took the report of some other railroad company, near the river?

A. Yes; I took the Union Depot Company property.

Q. You took the report of the Union Depot Company, and you found that the Union Depot Company market value, as claimed in their report, was 43 per cent above—

A. About that, in their report.

Q. —above the Northern Pacific?

A. Yes.

Q. So then, by this assessment method, applying your 60 per cent to land and your 50 per cent to improvements, and assuming that to be the just relation, you yourself established the value of this same tier of blocks of the Northern Pacific Company?

A. Yes.

Q. It was lower than the Northern Pacific Company's value?

A. It was.

Q. And then you increased the value so found by you by 43 per cent, because the Union Depot Company's report was 43 per cent higher than the Northern Pacific Company's report?

A. I took the natural rate of increase as being representative of the conditions there, and if the base is right it is merely a corroboration of the value which had been put in by the real estate men who valued that tract of land, and my base is different, but the plan is the same.

Q. Well, I say you took the 43 per cent to add to the value which you had established that the property abutting on Sixth street—

A. Yes.

Q. —because the report of the Union Depot Company was 43 per cent higher per acre than was the report of the Northern Pacific Company?

A. Yes; that is so.

Q. Now, you came to the conclusion, and have demonstrated to your own satisfaction, have you not that the Northern Pacific Company was in error as to its value in the tier of blocks on the north side of this section?

A. Well I have come to this conclusion: that the Northern Pacific bought those four blocks in there for $320,000, in 1903, and they have turned the four blocks in at about $980,000.

Q. Well, so that you have satisfied yourself—

A. Yes, I satisfied myself that I could not use the Northern Pacific figures as a base.

Q. —that the Northern Pacific Company was in error and claimed too much value for the tier of blocks on the northern boundary?

A. Yes.

Q. And you also, by your methods, have come to the conclusion that the Union Depot Company, as to subdivision 1 of this map, was in error as to the value it placed upon its land?

A. Yes, in the same relation, that was shown in their report.

Q. And you have assumed that the percentage of error

made by the Union Depot Company in its value is exactly the same percentage of error that the Northern Pacific Company made in its value; that is one of the necessary underlying arithmetical assumptions of your work, isn't it?

A. Yes, that might be true.

Q. Well, it is true, isn't it? There is no "might" about that; it is arithmetically true isn't it?

A. It would be arithmetically true.

Q. And that is the way you get your $81,000?

A. That is the way that the $81,000 was produced.

Q. Now, is it true, in your judgment, in point of fact, that the values do increase in this section as you approach the river?

A. I think the railroad value increases, yes.

Q. And the market value?

A. And the market value for railroad purposes.

Q. Now, is it true that you believe that $151,000 per acre indicates the true market value of the lands in blocks 45 and 46, where you got your criteria?

A. I should say that it did; it is based upon the assessments and what the property had actually sold for.

Q. That is, it is your finding and determination, as a matter of fact, that the lands in blocks 45 and 46 of Kittson's addition, are worth $151,000 per acre, market value?

A. Yes. That is right in the jobbing district of the city and the most valuable property that could be taken into account in that section, and very different from the great bulk of property that lies farther to the east.

Q. And if that $151,000 per acre were corrected to give you your reproduction cost new, what would the figure be per acre?

A. I couldn't use that figure for that purpose. Those blocks up there were not used for the purpose of getting at a railroad value; they were used, as I stated before, purely and

simply to justify the application of the assessment or sales-method and using the 60 per cent. Now, the fact that that property sold up there for $151,000 an acre, is not a criterion to take to apply to all of this property. Any one who is familiar with the movement of real estate through here, knows that property down here is not worth that. Here is property, lying on Seventh street, which is one of the important streets of this city, and property in there has been selling, and the sales are on there, where it is selling for about a dollar a square foot.

Q. I think you haven't my question in mind at all.

Last question read to witness.

Q. By that I mean if you add to this $151,000 per acre the percentages which you add and call multiples, what would the figure be?

A. It would be about $262,000 an acre.

Q. Now, is it true, in your opinion, that, as you advance from blocks 45 and 46 to the river, the value increases along that tier of blocks between Broadway on the west and Olive on the east?

A. Speaking of it from the standpoint of railroad facilities, I should say that it did.

Q. And would you say that the rate of increase was 43 per cent?

A. Oh, it would probably be somewhere along there, taking what the reports of the railroad companies are as a basis.

Q. Well, you assumed that that was right and found it to be so or you couldn't have used it?

A. Well, it was the best basis I could get, Mr. Butler; I had to accept that.

Q. Now, if you increased the $151,000 per acre by 43 per cent (the normal increase as you approach the river in that tract) what figure will you get?

A. About $370,000.

Q. Well, not by merely adding the 43?

A. No, we got $262,000.

Q. Well, Mr. Morgan, if you add 40 per cent, that would be about $212,000 or $215,000 an acre for the true value, before you add your factor, wouldn't it?

A. Well, I thought you wanted it on the—

Q. No, here is the problem. You have found this to be worth $151,000 per acre—

A. Yes.

Q. —you have found that, from that to there (pointing) it increases 43 per cent. Now, what would be the acre market value of it?

A. It would be about $250,000.

Q. Now, if you add to that your multiple for reproduction cost new, what would it be?

Mr. O'BRIEN: I can't get that more than $220,000.

WITNESS: Yes, that is right. I did make a mistake here. It is $210,000.

Q. Then, if you add your multiple to that, Mr. Morgan?

A. About $367,000.

Q. $367,000 against $141,000 which you actually included in your report?

A. Yes.

Q. Now, Mr. Morgan, the length and breadth of these sections were determined by you according to your best judgment, the purpose being, as nearly as may be, to include land of equal value in one part of the section as compared with lands in the other part of the section?

A. Well, the idea of dividing it in that way was for convenience in the work as much as anything else. The fact that the property up in here (pointing) in this section is very valuable is offset by the fact that the property down here is not nearly so valuable; so instead of this representing anything at all except the abstract fact itself, by the process of

taking the average of this section, we get a much fairer proposition than to go through on a specific line that indicates something *there*.

Q. Let us confine ourselves to the railroad land to be valued. Your problem with this section was, among other things, to value the Union Depot Company's land embraced in the section?

A. Yes.

Q. And was it your idea, in determining the length of right-of-way or terminal lands that should be included in the section, to so size your sections that value in one part of it (of the railroad lands to be valued) would be, as nearly as may be, equal to the value in the other part of it?

A. No, I could not divide them in that way.

Q. Suppose you had made the limits of your section Olive street instead of where it is, made that section two blocks long, and applied the methods which we have discussed as they are established by your sales over here, your market value of $151,000 per acre?

A. You understand that the market value that you have been working out there of $151,000 an acre includes the improvements on those lands?

Q. I did not so understand.

A. Well, it does. That is the sale price, and the sale price never divides the improvements from the property itself.

Q. Then I misunderstood you; I thought the sales price was $180,000.

A. It is $180,000, Mr. Butler, but it includes the improvements on all of the property.

Q. Well, give us the value per acre there. We have been proceeding on the wrong theory all this time. The value per acre of the land is what I am after.

A. I can't tell you what the value per acre of the land is, because the sales covered both the land and the improve-

ments. The only value that I can give you on the land is taken from the assessment and raised to the true value.

Q. Oh, well, it necessarily follows that in this work of yours you have been able to get at land value as separate from the improvement?

A. Yes.

Q. Now, what is the land value in these two blocks, as separate from the improvement, according to your judgment? We will have to figure this all over again, I guess.

A. You see I gave you there the sale price of the property.

Q. We seem to have fallen into an error. I supposed that the price you had established in these two blocks 45 and 46 by this method was $151,000 per acre, and on that assumption I had just come to the conclusion that if you had made your section as I last indicated, on Olive street here, two blocks long, and applied your methods, you would have reached a market value of $210,000 per acre and a reproduction new cost of $367,000. Now, we have been proceeding in error, you tell us, because that $151,000 includes improvements. Now, I will ask you—

A. Well, Mr. Butler—

Q. —wait a minute now until I get through, if you please. —now I want you to give us, first, the value of the land, per acre, in those two blocks, according to your methods of getting at it; then I want you to add your 43 per cent to that, and then I want you to add your multiple to that and see how your own method would work out on that basis.

A. On leaving out improvements?

Q. Leaving out the improvements.

The MASTER: Leaving out improvements altogether?

Mr. BUTLER: Your Honor, I make a mistake; I thought this $151,000 was naked land.

The MASTER: I understand.

WITNESS: Well, I didn't mean to mislead Mr. Butler at all, it was purely and simply his asking me the sale price of the property.

Mr. O'BRIEN: We all fell into the same error, Mr. Morgan.

Q. What do you make the naked acreage value of those two blocks 45 and 46?

A. $76,000.

Q. About half of what we figured on before?

A. Yes, substantially half.

Q. So that, as a matter of fact, then, the improvements down there were worth as much as the land, on this criteria of sales you have?

A. Yes.

Q. And on a basis of a lower percentage or relation of assessed value to real value?

A. Yes, worked out on the same general principles as the city.

Q. Now, if you increase your $76,000 per acre by 43 per cent because you are going to the river, what do you get?

A. $108,000.

Q. As the market value as against the $81,000 which you have established?

A. Yes.

Q. And if you add your multiple, what do you get?

A. $189,000.

Q. As against the $141,000 which you have established?

A. Yes.

Q. So that if you had made your section along Olive street two blocks long, the land in that particular section would have been increased over the land in the whole Union Depot Company section of lands from $141,000 to $189,000?

A. Yes, on that particular line.

Q. How much per cent?

A. About 34 per cent.

Q. On the whole Union Depot Company property, on your reproduction new cost in column 7 of Ex. TT, as compared with column 3 of Ex. TT (the Company's cost) what is the per cent of spread between you? About $1,200,000 is the difference.

A. About 28 per cent.

Q. So the percentage of difference, gotten at in the example we take, of shortening the section to two blocks in length and applying your own method, makes a difference of 34 per cent?

A. You are not applying my method, Mr. Butler; that is your method.

Q. Well, except as to the length of the section it is yours, isn't it?

A. I have not taken the assessed value on those properties there, especially, covered in that way.

Q. The railroad properties are not assessed, are they?

A. Yes, they are; these properties through here are assessed, and have been, up to the time that they became available for railroad use and were actually put into railway use.

Q. Is that the only difference now, Mr. Morgan?

A. The difference, Mr. Butler, lies here, that you have taken two blocks through here to establish a particular value here. (Pointing.) Now, it certainly must stand to reason that that does not measure the entire property.

Q. Well, that is what I think it does not, and I want to see if you agree with me.

A. Yes, I do, fully.

Q. But now, if we just change that section line up to there—

The MASTER: Olive street?

Q. —up to Olive street, two blocks long (no matter whether that is right or wrong, we will not stop to explain that now, but just let us assume that to be a fact, one of the

things proven in mathematics and go on), then your next assumption is that 60 per cent expresses the relation of assessed value to true value?

A. Yes.

Q. In this county?

A. In this city.

Q. And that you have verified in this particular section, so shortened, haven't you?

A. Yes.

Q. And then by applying that to the sales which have actually taken place in that particular section, you reach an acreage price, market value, of $76,000 in round figures?

A. Yes.

Q. That is your method, isn't it, so far?

A. Yes, all right.

Q. And then you say that you have established to your satisfaction, and assumed as an arithmetical fact, that the increase in value from blocks 45 to 46 to the Union Depot Company, in the sections so conceived to be shortened, is 43 per cent, don't you?

A. Yes, that is right.

Q. Adding that 43 per cent, you get the market value to be compared with your $81,000—

A. About $105,000.

Q. Adding your same multiple for your reproduction cost new, you get $189,000 per acre as compared with $141,000, don't you?

A. Yes.

Q. Now, Mr. Morgan, isn't that, in every detail, your method, except as to the length of the section?

A. Yes, that is all right.

Q. That is what I mean.

A. Yes, that is all right. Now, if you would apply that down here (pointing) you would find just the reverse condi-

tion to be true, which brings down the general average of the section as I have shown it.

Q. Yes, I understand that to be your theory.

A. Yes.

Q. I understood you to say, when you were upon the stand before, speaking of the Northern Pacific right-of-way—and I think it was on the occasion that we had the map of the Milwaukee right-of-way between St. Clair street and Selby avenue—that you said that examination of these sections might possibly disclose error in the average value of all in the sections, but, because the right-of-way of the Northern Pacific in this city was long and divided into a good many sections (and you gave us the number) you thought that the error in one might be one way and in the other the other, and on the whole it would come out about right?

A. It proved out the same way on 75 per cent of the property owned by the Northern Pacific.

Q. That is what you say. That was because of the number of sections?

A. Yes.

Q. And number of instances?

A. Yes.

Q. How long is the tract of the Union Depot Company,—half a mile?

A. It is probably half a mile.

Q. So that you have not as much opportunity for error in one to counterbalance the errors in the other, in a piece of terminal property half a mile long as you would in one as long as the Northern Pacific is?

A. That is very true; and if we had found from the actual sales here that the conditions justified the use of a different multiple, we would have used it, but from the actual sales which had taken place within the territory that we had considered, there was no justification for changing the multiple.

Q. Now, we have illustrated, by this particular section, what would happen if you shortened the section. Have you ever figured out what would happen if you had widened that section to Seventh street?

A. Yes.

Q. You have?

A. Yes. I do not consider—

Q. Never mind, now, about justifying the size of your section; I just want to find out what would happen if we would make it a block wider.

A. Yes.

Q. Applying your method, do you know whether it would increase or decrease?

A. It would increase slightly.

Q. And if you went to Eighth street, would it increase or decrease?

A. I have not gone that far, I don't know; I am inclined to think it would begin to decrease, in some parts of that property there, very rapidly. The best property lies right along on Seventh street; that is the highest class property in that section of the city.

Q. The most valuable property is on Seventh street?

A. On Seventh street, over here.

Q. Just outside of the boundary line of your section?

A. Yes; and that property from Broadway to Kittson, according to the assessment basis, is about $2.50 a square foot. Now, then, the Northern Pacific has put in $3.40 a square foot on this property (pointing) which is off from Seventh street two blocks.

Q. Let us stick to the Union Depot case. $2.50 per square foot would be about $125,000 an acre?

A. Something like that.

Q So you left out of your section that land which was all along the northern boundary of it, which was a good deal

higher in value than the value that you have established here?

A. That property, Mr. Butler, I didn't consider as being necessary to take into account. We had a very fair strip of property through here (pointing). I considered that the section was a fair one and gave us a fair index of value, and that is where the values started that were turned in by the reports of the Railway Company.

Q. Well, I was not inquiring particularly for the reasons, I know, of course, you had reasons that were satisfactory to yourself, but the fact is that if the property on Seventh street, worth $125,000 an acre were to be taken as criteria, you would have to increase about 40 per cent the value that you have placed on the Union Depot Company property here?

A. I spoke, a short time ago, about these blocks in here (pointing).

The MASTER: In where?

WITNESS: That is between John street and Neill street. Property has been selling in there for about a dollar a square foot. There are three or four sales reported in those blocks at about a dollar a square foot.

Q. I misunderstood.

A. I was speaking of the upper part of this property. Of course, it gets better as you go towards Broadway, but down this way it gets very much cheaper.

Q. Well, we will leave that now. I want you to look at the shape of the Union Depot Company's lands in Section 1 of this map. What shape is it? It is so long since I studied the shape of figures geometrically that I can't tell. Something like two wedges pointed towards each other, isn't it, with the points cut off the wedges?

A. Well, it is a wedge-shaped piece of property.

Q. Inverted conic sections?

A. Yes.

Q. Now, Mr. Morgan, you know, do you not, that that Union Depot Company accommodates several hundred trains per day?

A. Yes,—I know it is no place for a union depot.

Q. That is the reason you think it isn't worth anything! Now, do you know that that throat of land about the center of Section 1, is called the throat of that yard?

A. Yes.

Q. And you know that it is the busiest, most used, piece of railroad tracks, moving the highest class of traffic, in this state, don't you?

A. Yes.

Q. And you know, do you not, on your assumption in your instructions to this Company, that if it were considered that the railroad development on that land were to be eliminated (the improvement just lifted out) and the development all around it was just as it is now, that that land would command a higher selling price than any land on any street or place in St. Paul?

A. I couldn't say as to that, Mr. Butler. It would be very valuable. I might illustrate that in this way: that here is the Northern Pacific road between here and Minneapolis; if we should take out one hundred feet of the right-of-way that they own, what would it be worth to the Northern Pacific Company to acquire that one hundred feet of right-of-way that it needed to carry its line from St. Paul to the Pacific coast? Likewise, we might take it in that particular hundred-foot section and consider it to be worth millions upon millions of dollars to acquire it, in itself, to enable this railroad to transact its business. But I have not considered the reproduction cost of the railroads of Minnesota upon that basis.

Q. I am now getting to the Union Depot Company, not a transcontinental line, to the land owned by that little company, whose lands are a half a mile long, and I want to ask

you, Mr. Morgan, if you followed the instructions which yourself you gave to the Company, to-wit, eliminate the railroad development on the land in that Section 1, conceive that the developments all around it and in this city are just as they are, I want to ask you if you think that $81,000 or $141,000 is sufficient reproduction-new cost per acre for that land.

A. Yes, I do.

Q. You think it could be procured for that, do you, Mr. Morgan, with the ten railroad companies—there are ten coming in here?

A. Yes, and they are all tenants, and they are all joint owners, and there would be no obstruction to the development of that property.

Q. Now, I want your deliberate answer. You think that if that property was clear of railroad improvements, and the developments that are in this town and around it were just as they are, it could be procured for $141,000 per acre?

A. That is what I estimated the reproduction cost of that property at, and I believe in it.

Q. Now, independent of your figures, of your arithmetic and all that, but viewing it from the standpoint of a man familiar with the necessities and the uses to which that land could be put, are you, Mr. Morgan, of opinion that $141,000 per acre is enough, that it would buy the land, under those circumstances?

A If we take the history of the Union Depot Company, we will find that a very considerable part of the land which they now possess was given to them by the city of St. Paul.

Q. I want you to answer that question, Mr. Morgan, just as it is put, if you can.

A. If I have a right to assume that the same privilege would be provided, that the property reverted to its original condition and the city owned the streets and the rights that it possessed at that time, I believe that a reproduction cost

that I have placed upon it will buy the property.

Mr. O'BRIEN: Why don't you find out what the granite front would be worth in Messina at the present time, where there is no volcanic eruption present?

Q. Mr. Morgan, we talked of shortening up this section to Olive street, and we showed that that would increase your figures, by your own method, 34 per cent, and you have expressed the opinion that the same method applied down here would reduce your figures so as to correct that error, as I understand you. Did I understand you right?

A. Yes.

Q. Now, Mr. Morgan, as a sensible railroad man, I want to ask you whether you think the property of the Union Depot Company in Section 1, lying between Olive street and Willius street is worth any less per acre than the land between Olive street and Broadway.

A. If you are speaking now from the standpoint of utility of these lands for railroad purposes, I should say not. I am speaking from the standpoint of reproduction cost, and, therefore, we must take the value of lands as we find it in each particular locality.

Q. Well, if they were going to reproduce a railroad, the utility value of the things that they had to buy would very seriously affect the cost, wouldn't it?

A. I think the fact that a railroad company possesses property, often has an effect as to how much it is regarded to be worth, because it is very difficult to separate the idea of its value as a utility from the fact of the land itself.

Last question read.

A. Yes, and that has been recognized when I applied the multiple.

Q. And did you consider the enhanced value by reason of its particular adaptability, utility and strategy of this particular section, or any of those elements?

A. Oh, I think, as I stated in my testimony before, that here was property down in here that cost the Northern Pacific two and a half or two and three-quarters times the normal value of the land. We also took into account all of the Soo property, which is "strategic" property, the same as this is strategic property. Now, then, those were used, in part, to establish our multiple; therefore when we applied that multiple, we took into account the strategic value of the land there, because that very fact, that the roads have paid more for lands in certain parts of the city by reason of their strategic location, has increased the multiple, and we have applied that over all of the lands owned by the railroads.

Q. Let us go to Section 2 of this map. That is three blocks long?

A. Yes.

Q. From Sibley to Broadway?

A. Yes.

Q. Why didn't you run it down to Olive?

A. We had already considered Section 1 to Olive street.

Q. Yes. Why didn't you make that section to Olive?

A. Well, we didn't have an opportunity to get the assessed value through here for this property, as well as we did from here; divided it in much better shape.

Q. That is, much better shape to find the data upon which to apply your theory of valuation?

A. That is correct. We had to get the sections as symetrical as it was possible to do.

Q. Well, of course, Section 2 and Section 1 are not symetrical in size or shape or length, or anything of that kind?

A. As near as that could be approached.

Q. And this was one of the situations where it required skill in the division of the land in order to find data in each section to apply to your theory?

A. Well, it required a good deal of study, yes; we spent a

good deal of time in trying to get at it in a fair way.

Q. Now, if you had brought that section down to Olive street—

The MASTER: That is Section 2?

Q. Section 2. If Section 2 had been made to Olive street instead of to Broadway, have you figured out to find out where you would come out on the value?

A. No, I have not.

Q. You don't know whether it would increase it or diminish it?

A. Well, I can't say as to that, at the present time. I am inclined to think that it would diminish it.

Q. Inclined to think it would diminish?

A. I wouldn't want to say, offhand, without making the calculations, however.

Q. Can you do that?

A. I can have that worked out.

Q. Yes, and make an exhibit, or a little statement, for us that we can put in the record without interrogating you further. Now, Section 2 is four blocks long, extending from Broadway to Jackson street, and from the Mississippi river to Third street?

A. Yes.

Q. Railroad property bounds the Union Depot property in this section on the south; between it and the river the Milwaukee company owns property, does it not?

A. Yes.

Q. Do railroad companies own all the land included in that section?

A. I think that they do at the present time, mostly; I think it has most all been bought since,—in fact, nearly all this property has been bought since this investigation was started. Some of it we were able to get the sale-price on, and

others were given for one dollar "and other valuable considerations," and, of course, we had to exclude those sales, because we didn't have the figures.

Q. So that in this section, Mr. Morgan, there is included nothing except railroad property?

A. Well, at the time that that was considered it was not railroad property.

Q. Well, it was owned by railroad companies and held for future use?

A. No, it was not owned then.

Q. I thought that some of the companies had bought Kelly's store, at the corner of Sibley street, and those properties down there, years ago.

A. Well, that was bought in 1904, but it hadn't been utilized for railroad purposes, not been turned in to railroad service.

Q. How much of that land was not owned by railroad companies last year when you made this valuation?

A. Well, I couldn't say as to that.

Q. Was there any?

A. There may be.

Q. Can you tell by looking, I mean?

A. Well, here is the Griggs-Cooper property in here; I think that was sold, however, to the railroad companies.

Q. What particular tracts of land east of Sibley street, if any, were your sales criteria in this section?

A. Well, in this section we took one sale west of Sibley street.

Q. Well, I said east of Sibley street.

A. Well, there was one west of Sibley and two sales east of Sibley.

Q. What were the two east of Sibley?

A. Well, they included this corner block in here.

Q. The old Kelly store?

A. The Griggs-Cooper corner there, at the corner of Sibley and Third streets.

Q. Well, that is the old Kelly store; it is marked "Griggs-Cooper."

A. Yes. Then we took the sale of property between Wacouta and Rosabel; that is part of lots 2 and 3.

Q. Aggregating what value?

A. $204,500.

Q. What is the value, as established by you, the reproduction-cost new, of the Union Depot Company lands in that section,—mere lands?

A. $1,678,708.

Q. Now, that is the lands valued. Of all the sales taken into account in that section, what was the aggregate value of the lands, independent of improvements?

A. About $132,000.

Q. That includes the three tracts?

A. That includes the three tracts, yes. I haven't got that right. As long as you are going to take that section into account, I should like to call attention to the fact that that property at the corner of Sibley and Third was acquired by the city for the purpose of widening Sibley street, and that condemnation proceedings were held in order to gain possession of that property. The naked land value is at the rate of $190,000 an acre.

Q. What would the total be?

A. The total would be $132,000, but that represents only .69 of an acre.

Q. How many acres in Section 2 of the Union Depot Company?

A. 6.63 acres.

Q. So the area of sales that you got at there was .69 of an

acre, and the amount of the land of the Union Depot Company to be valued in your problem was 6 2-3 acres?

A. Yes.

Q What was the relation of assessed value to the acquiring cost of the southwesterly corner of Sibley and Third for the opening of Sibley? There are some improvements there, too, of course, I suppose.

A. Yes. The true value of the land and the improvements, as based on the assessment, is $61,000; and under the condemnation proceedings which were had, that property was sold for $84,500.

Q. Well, I wanted to get the per cent, if I could, to see how near the 60 per cent you come by applying your rules to that particular concrete case.

A. About 30 per cent.

Q. That relation of assessed value to the market value of land on that particular tract was 30 per cent?

A. Yes, but that was a different character.

Q. That was the figure, was it? I am just getting at the figures now.

A. Yes, but I should like to include in that also the fact that condemnation proceedings by a city, they are acting substantially in the same relation that a railroad company is in purchasing property, and therefore they pay a higher price for it.

Q. Now, take the second tract, which is the old Pat Kelly store, I think, at the other corner of Sibley, the southeast corner. Now, get the relation of assessed value to the selling value there, back in 1904.

A. The true value of that, based upon the assessment, is $111,000.

Q. Doesn't that include the improvements?

A. Yes, that includes the improvements.

Q. Go on.

A. And it sold, according to the transfer, for $100,000.

Q. Well, what would the percentage be on the land? To bring it down to the land you have to get your improvements off.

A. I can't do that and make a direct comparison on sale, you know, Mr. Butler, because the sale doesn't show the—

Q. No, but the assessment shows.

A. The assessment will show separately, yes, for each.

Mr. O'BRIEN: The assessment shows the gross.

Mr. BUTLER: And the division.

Mr. O'BRIEN: And the division, and the sale will only show the gross.

WITNESS: I can only make the comparison in one way, of the selling price against both the improvements and the property.

Q. That was what you meant by the 30, then, in the last answer?

A. Yes.

Q. And what would this be here?

A. About 10.

Q. About 10 per cent?

A. Yes. One per cent, I should say.

Q. That isn't right, let me back up. This piece that was condemned by the city on the southwesterly corner of Sibley, the acquiring or condemnation price, compared with the assessed value, including both the land and realty, indicates a relation of 30 per cent assessed value to the condemnation value; am I right on that?

A. Oh, no; no.

Q. What is the percentage? What did you mean by that 30 per cent?

A. That was just the gross difference. Wait until I figure

that the way you want it. Now, you want that with the improvements, of course?

Q. It has to be, you tell me.

A. Yes, that is right. The assessment on that property which was condemned represents about 45 per cent of its sale-price.

Q. And on the southeast corner of the same street?

A. 62.2 per cent.

Q. And on the other piece?

A. About 68 per cent.

Q. And the average about 55?

A. Well, the average runs very close to 60. The selling price of all three pieces of property here amounted to $204,500, and the true value of the same property, raised on the basis of 60 for the lands and 50 for the improvements, is $197,760.

Q. Mr. Morgan, did you define the boundaries of this section as one of the sections to be used in solving that problem?

A. Section 2?

Q. Section 2, before or after you procured the information touching the sales values and assessment values concerning which you have testified?

A. As I stated, in my direct testimony, the making up of these sections was done entirely independent of any data or figures that we had. There was no effort made to try and pick out a section because of particular conditions which might exist in any one.

Q. And why is it (I think you told us) that you didn't make a section extend from Sibley street (quite a natural point for an ending, I should think, physically) to Olive street?

A. As I stated before, that property could be more conven-

iently divided, and we could get our assessments adjacent to the property in a far better way, by those divisions than we could by any other.

Q. So your sales data and your assessment data did, to a degree, at least, control the boundaries of your sections?

A. Well, of course it did; it is germane to the problem—

Q. Certainly.

A. —but we didn't use the figures which those sections added.

Q. So that, in defining the boundaries of these Sections 1 and 2, you were, in fact, controlled, were you not, by the location of the places where the sales had been made?

A. No; all property not owned by a railroad is assessed; a good deal of property—

Q. Shown by the sales and assessed property, I mean.

A. Yes.

Q. Why is it that you included the property west of Sibley in Section 2? What did that have to do with the value of the Union Depot property, up that hill there? The Union Depot Company doesn't own anything up there.

A. We had property facing the Union Depot on both sides. Here was the end of the property here, and we start it from this way as well, the same as we start it from this direction. We couldn't consider it from this direction, because of the river.

Q. The Union Depot Company doesn't own anything beyond the middle of Sibley, does it?

A. No.

Q. Nothing whatever?

A. No.

Q. The only railroad company that does own in Section No. 2, except the Union Depot Company, is the Milwaukee road, isn't it?

A. The Great Northern owns property in there now.

Q. Beyond Wacouta?

A. Yes, I guess these tracks of the Great Northern come up here.

Q. Now, Mr. Morgan, if your No. 2 had extended down to Olive street, it would have brought the price of all of the acreage higher, would it not?

A. I can't say as to that; I haven't worked it out.

Q. Well, you have shown me that the north end of Section 1 would have increased 34 per cent, haven't you?

A. Yes.

Q. The north two blocks?

A. You will find, though, that my values are the average of that entire tract and that while you find the highest value here in this section—

THE MASTER: By "here" you mean at the north end of Section 1?

WITNESS: At the north end of Section 1, yes; the west end of Section 1, as we go east the values decrease.

Q. Now, isn't it true, without elaboration of detail, that taking the very data that you have taken, but dividing your section differently, you could get different results on each part and on the total?

A. I wouldn't want to say that, Mr. Butler, at the present time. I presume that, to a limited extent, that is so.

Q. Will you figure out for us the valuation of the property of the Union Depot Company by regarding it all as one section, taking just the data we have used?

A. Have I figured that out?

Q. Will you just make a memorandum of it? It isn't much of a job is it?

A. Well, there is considerable data in connection with that that would have to be gone into.

Q. I mean just take the specimens that you have in these

three sections and regard it all as one section and apply your rule to it and see what your valuation would be, per acre, and total reproduction-new cost. Would that be a very long job?

A. I don't think we could do that, Mr. Butler, from the fact of our having this special condition to cover here.

Q. You could do it arithmetically?

A. No, it couldn't be done arithmetically, considered as a whole.

Q. Why?

A. Well, because you would have an increasing ratio here (pointing).

Mr. O'BRIEN: Won't you indicate by language what point you are indicating?

WITNESS: We have an increasing ratio from Sixth street extending towards the river, and that would undoubtedly complicate the proposition.

Q. If you leave that off, could you do it?

A. Yes, that could be done.

Q. And then we could correct up the figures here. You can ascertain what the increase was of this 43 per cent, and add to it, can't you, what the actual increase on the area affected is?

A. Yes.

Q. So it is arithmetically easy to be done?

A. It can be done.

Q. Will you do that for me some time before long?

A. Yes, I will.

Recess until 2 P. M.

AFTERNOON SESSION

Q. Referring to Section 2 of this map, did you apply the rules or the theory that you have worked on to that without any modification, or did you modify it by adding or deducting any percentage on account of anything?

A. The application of the 60 per cent, which we found to be the relation for the railroads in the city as a whole, was applied to all of the property owned by not only the Union Depot Company, but all of the other railway companies that enter that territory. The sales that we found in that territory bore out, as a whole, the reasonableness and fairness of the application of the 60 per cent.

Q. Well, in Section 1 you added a percentage by reason of approaching the river, didn't you?

A. Yes; that was a different proposition we had there.

Q. I want to find out whether you did anything to modify the application of your theory to the lands in Section 2, or whether that was a typical case and your theory was rigidly adhered to.

A. The land lying to the north of the Union Depot property is precisely the same kind of land, and we only had there the Union Depot and the Milwaukee to consider.

Q. You mean at Section 2?

A. Yes, speaking of Section 2; and that property is accessible to the public in a different way than this property is.

Q. Well, did you apply your theory to that without modification, or did you modify that?

A. We applied the theory to that without modification.

Q. So that the application of your theory to the Union Depot lands in Section 2 was the simple, plain assumption, was it not, that the value of the lands used by the Union Depot Company for railroad purposes in that section were, on the average, in that section, exactly equal to the lands which were not used for railroad purposes?

A. That was taken as a basis.

Q. Now, do you know whether or not, if you had extended that section—you see there is half a block there wide, a single row of lots?

A. Yes, of very highly improved and valuable property.

Q. Every one of which was improved?

A. Yes.

Q. So that if your 40 per cent relation between the assessed valuation of the improvements and the real value of the improvements was not, as applied to those improvements, justified, it would result in error in your value?

A. The 50 per cent.

Q. The 50 per cent, yes.

A. Yes; 50 per cent was found to be about right.

Q. Found in here to be about right?

A. In the city as a whole.

Q. No, I am talking about this.

A. I haven't applied it on that basis.

Q. You couldn't apply it there, you told me?

A. And I said that that 60 per cent you can test anywhere.

Q. The only way to get at that is to have somebody look at that, as we have been doing, and make a valuation of the buildings and compare the assessed valuation of the improvements to the appraised value of the buildings; that is the only way to do it?

A. Yes, that is right.

Q. And that was done in some instances by somebody here and established a percentage of 50?

A. That is correct.

Q. And you assumed that percentage of 50 to be right in here?

A. The same as it is elsewhere, yes.

Q. Nobody pretends that it is uniformly 50 on every block in the city, do they?

A. It might not be so.

Q. It might vary in like degree as the assessed valuation of the land varies to the market value, might it not?

A. Well, I couldn't say as to that. I hardly think it would be as much as that.

Q. So that it follows, does it not, arithmetically, that if the assumption that 50 per cent expresses the relation of true value and assessed value, if assessed value to true value of improvements on this tier of blocks in Section 2 is not justified, not borne out by the facts, that necessarily results in error in your valuation, does it not?

A. The fact that the sales of such property as used in that section, taken as a whole, corroborated the 60 per cent theory according to the sales—

Q. Mr. Morgan, I either haven't made myself clear or can't, one or the other. I will frame another question. If, as applied to the lots in Section 2 on this map, which are not used for railroad purposes and which were your criteria here, the 50 per cent which you assumed to be the relation between assessed value of improvements and real value of the improvements be wrong, it necessarily follows, does it not, that your valuation is wrong?

A. Mr. Butler, you seem to think that I have taken those sales as a criteria. I have not taken those sales as a criteria. Those sales merely bear out the general proposition.

Mr. BUTLER: Read the question.

Question read.

Q. I did not intend to say anything in that question about sales as a criteria, and I think I did not.

Mr. O'BRIEN: It seems to me you did, Mr. Butler, direct.

Mr. BUTLER: No, I didn't. The values of these lots, as he gets at it by his assumption, are his criteria. These are his criteria.

Mr. O'BRIEN: He says they are not.

WITNESS: They are not my criteria.

Q. What are your criteria, then?

A. The 60 per cent for the city of St. Paul, that I have established, and the fact that these lots have been sold actually for it, bear out the general proposition.

Q. Your first assumption is that in this city, as a whole, 60 per cent expresses the relation of the assessed value to the market value of the land?

A. Correct.

The MASTER: Without improvements.

Q. Without improvements. That is your first assumption?

A. That is correct.

Q. Your next assumption is that 50 per cent expresses the relation of assessed value to real value of the improvements?

A. That is right.

Q. That is assumption No. 2. Now, in applying that here you proceeded on the theory that that was true with reference to all the lands in Section 2 which were assessed?

A. Yes.

Q. And all the improvements which were assessed, did you not?

A. Yes.

Q. So your third assumption is that that which is true with relation to the assessed value of the land and of the improvements (to the real value of the land, and improvements, respectively), applies to land other than railroad land in Section 2; that is your third assumption, isn't it?

A. That is right; and which is borne out—

Q. Never mind whether it is borne out or not.

A. I want to say that we are proceeding—

Q. We know you think it is borne out. Your fourth assumption is that, on the average, the Union Depot Company's lands in Section 2 are worth just as much, per unit of area, as the lands in Section 2 which are not railroad lands; that is your fourth assumption, is it not?

A. That is; and it is a very liberal assumption there, because that property—

Q. I wasn't speaking of the weight of it; I simply want to get at the fact.

A. Well, that property along there faces Third street; that adds a good deal to its value.

Q. Now, then, if any one of these four assumptions upon which your computation proceeds is erroneous, your result is erroneous, is it not?

A. Well, I presume that that might naturally follow, but I haven't come to the belief that it is erroneous.

Q. Of course, I know that, Mr. Morgan. But I simply want to test your arithmetic, your arithmetical method. Now, do you desire to qualify at all the answer to the last question? Do you not know it to be a fact, arithmetically, that if any one of the four assumptions we have spoken of is erroneous, your result must be erroneous?

A. I think I stated in my answer that it would affect the result.

Q. Your result would be wrong if any one of those assumptions was not justified; isn't that true?

A. Yes, you might put in the word "wrong" if you wished to.

Q. And the degree of error or wrong in this result would depend upon the degree of error in these assumptions, would it not?

A. That is true.

Q. So that, if your fourth assumption (which you say is liberal) is an error in favor of the Union Depot Company, your value is too high on Section 2, isn't it?

A. I merely stated that the basis upon which I took it was entirely fair to the Railroad Company.

Q. I understood what you said, but now answer what I ask.

A. It might be too high, although there is no way that it might be determined just how much too high it would be.

Q. No, that is it, no way by arithmetic?

A. No,—and that is a pretty good way.

Q. No, if you included in your section a block instead of a half a block of non-railroad lands, and took the south half of the tier of blocks next north of this section, which would be the other side of Third street, can you form an opinion whether that would increase the result in value of the Union Depot property in Section 2?

A. I haven't figured it out.

Q. Is there any substantial difference in the values of the lands on Third street on one side or on the other there?

A. Some, from the assessments, some that we had the assessments on.

Q. Did you take the assessments on that property fronting southwardly on Third street?

A. No.

Q. From Sibley to Broadway?

A. No.

Q. Did you examine the records of recent sales there?

A. We had two sales on there of recent date.

Q. And did you examine the record in that vicinity of any other sales, between Third and Fourth streets?

A. We had some sales between Third and Fourth streets.

Q. To what use did you put the result of that investigation of the values or sales outside of your section?

A. We made no use of it at all. It was outside of the lines of the section that we had established.

Q. What did you examine it for, then?

A. We put the sales on there; we put sales on these maps all over this city, just as many sales as we could get.

Q. But made no use of these contiguous or near-by sales with respect to Section 2?

A. No.

Q. Why was it that you established the boundary on the north of Section 2 where you did? Tell us the considerations.

A. The boundary on the north was established the way it is because the property in there colored green is owned by the Chicago, Milwaukee & St. Paul Railway Company.

Q. Why didn't you go a half block farther, or a block farther, or two blocks farther to the north in that section?

A. Because this is all a public levee in here.

Q. This is what I mean by levee, I may be wrong. (Pointing.)

Mr. O'BRIEN: The top of that map is what you refer to.

Mr. BUTLER: I meant towards Fourth street when I said north.

Q. Why didn't you take in a wider strip there?

A. We didn't consider it was necessary to take in a wider strip. The property that we considered valuable property was right in the immediate vicinity of the union depot, and it reflected the value of the property in there quite as well, in fact better, than though we had taken a wider section.

Q. In many places in the maps which you have shown us you have taken in a quarter of a mile on both sides; here you have taken in about 120 feet on one side; why didn't you take in more? There must be some reason for that, Mr. Morgan.

A. I don't know that I can give any precise reason for that. In the individual sections, we took as much land into account as we could, to equalize the conditions on both sides, and in a good many cases we had more than we were ready to consider that were separated in parallel lines, and we took the entire property from side to side.

Q. What consideration or thought or idea controlled you in fixing the boundary of Section 2 along the center line of Third street, instead of taking in more? Why not go to

Fourth or Fifth or Sixth?

A. It was precisely the same class of property that the Union Depot property is in that block, and the consideration I gave to it led me to believe that if we took that as a basis we would get a fair value on the Union Depot property.

Q. Now, if it is true that, on the other side of Third street, there is more of the same class of property, all assessed, why not take that in? Because, the greater the instances of these assessments, you have told us, heretofore, the less likelihood of error.

A. Well, as I explained, in my direct testimony, we might have moved clear over to the court-house in some instances, but those things are not deemed to be necessary. We know this, that the value of property changes in a city, and it would be entirely unfair, so far as I am able to judge the problem, to go clear up to Fourth street or Fifth street to measure that property, located particularly there, owned by the Union Depot Company. The reason that we proceeded in that direction, on Section 2, as far as we did, was because this whole territory here was given over to the railroad companies.

Q. It would not be unfair to go farther, Mr. Morgan, if the land that was taken in by the additional boundary was of the same kind of land as to value as that which you proposed to value, would it? That is to say, Mr. Morgan, if the land over to Fourth street was of the same value as the land of the Depot Company that you proposed to appraise or value in this Section 2, it would be wise, then, to go to Fourth street, wouldn't it?

A. I don't consider that that was the same class of property.

Q. No, and that is the reason that you didn't include it, isn't it?

A. Yes.

Q. So that the boundary line, in this particular section,

on the north was determined by you, by your judgment that it included land of equal value, on the average, to that in the section which you proposed to value?

A. Correct.

Q. And that which was nearby and within a short distance, was left out because you thought it was not of equal value on the average?

A. I didn't investigate it at all. You can see that we haven't even the assessment on it.

Q. I know, but, Mr. Morgan, you made your boundaries before your investigation, didn't you, before you figured out how it would work?

A. Yes.

Q. Because, if you didn't, you were simply making an example and fixing boundaries to cover it. So your first problem was to define here boundary lines for this section, to include what you wanted to value and to include the contiguous property of the same value on the average and leave out that which you thought of a higher or lower value, so as not to be unfair either way; isn't that true?

A. That is what I tried to do so far as I could do so.

Q. What you tried to do for this section is what you tried to do with all the sections, isn't it?

A. I tried to get a fair index of value from the adjacent property.

Q. And you intended to include in each section land other than railroad lands which, on the average, would value the same as the railroad lands in the section, didn't you?

A. That was the idea; that was the base from which it was established.

Q. You didn't leave out any nearby lands which you considered to be of the same value because it would affect the result either favorably or unfavorably? (No answer.)

Q. You understand what I mean? That is, you used your

judgment as to the equality of value between the non-railroad lands and the railroad lands included in the section, didn't you?

A. That had to be done.

Q. And you didn't leave out any that would reduce the value, or put in any that would increase the value; that is, you didn't intend to include any that was, on the average, of a higher value than the railroad lands, or exclude any that was of lower value, or vice versa, did you?

A. No, I tried to get at it in a fair way.

Q. Now, it is altogether likely, is it not, Mr. Morgan, in this city, that values vary greatly between tracts a short distance apart?

A. Yes, I think that is probably so.

Q. That is probably markedly true in this town, is it not?

A. Well, yes, I think probably it is, in some parts of the city.

Q. Property of very high value may be located not far from property of comparatively little value; that is true in many places that you have come across here, is it not?

A. Yes.

Q. So now, your estimate is not based at all upon your opinion of the value in the ordinary sense of a real estate man's opinion?

A. No.

Q. But your conclusion depends, does it not, upon the soundness of your opinion, to-wit, that the average value of the land in the section to be valued is the same as the average value of the land in the section which is not to be valued, per unit of area?

A. Yes, that is true.

Q. So that, in the last analysis, that which we have stated to be your fourth assumption reduces itself to your individual opinion, not as to the absolute figure of value, but as to the

comparative value, on the average, of the railroad land and the non-railroad land included in each section?

A. That question is not very clear to me, Mr. Butler, I don't believe I understand it.

Question read

A. My opinion only extends to the extent of making the divisions of the sections.

Q. That is it. We stated four assumptions, which you bear in mind—

A. Yes.

Q. —the last one of those was that, on the average, the railroad land in each section to be valued, is worth the same as the non-railroad land in each section.

A. That is taken as the base and spread over that property, using the multiple.

Q And as you have told us with respect to this Section 2, you made the boundaries of this section as you did because, in your opinion, it would not be fair to include more than you included because of the difference of the situation and value of the property?

A. That is probably true.

Q. So that, if there be a fault in that fourth assumption, if it be wrong, your result is wrong, is it not?

A. It would make a difference in the result.

Q. Now, whether or not that fourth assumption or proposition is right, depends upon your individual opinion, not as to the value of the railroad land and the other land in each section in dollars and cents, but as to the equality of value of the two classes of land, on the average, in each section, does it not?

A. As I have stated right through, the value of the railroad land has been established from contiguous property.

Mr. BUTLER: Let that question be read.

Q. See if you do not agree that an affirmative answer fol-

lows of necessity—and if so, I am sure you will give it to me.

Last question read.

A. I don't believe I understand that question.

Q. Well, if you are wrong in your finding or determination that the non-railroad land in Section 2 is of equal value to the railroad land in Section 2, on the average, your result is wrong, isn't it?

A. I don't see, necessarily, how it could be wrong.

Last question read.

A. I am valuing the railroad land from the contiguous land,—

Q. Now, answer my question.

A. —therefore, the value of the railroad land has nothing whatever to do, primarily, with the value of the adjacent land.

Q. And is the converse of that true?

A. It is not true, so far as the base upon which this work has been done.

Q. Well, I will leave out the, "base upon which it has been done." If this proposition, that the value of the railroad land has nothing to do with the value of the contiguous land, is true, as you say now, I ask you if the converse of that is true, that the value of the contiguous land has nothing to do with the value of the railroad land.

A. It has nothing to do with it, Mr. Butler, as we have done this work, because we have taken the contiguous land as a basis.

Q. That is it; and you have compared equality between the railroad land and the contiguous land in these sections, haven't you?

A. That is just what has been done, primarily.

Q. Yes, sir; and that assumption is based upon your individual opinion as to the equality of values of the two classes of land in each section, isn't it?

A. Primarily, it was necessary to assume the equality.

Q. Yes, you formed your judgment on it?

A. Yes.

Q. Now, if, in that, your judgment was at fault and wrong, your result is wrong, isn't it?

A. That might follow.

Q. It does follow, doesn't it?

A. Yes; I am not willing to admit that my base is wrong, though.

Q. No, of course, I don't expect you to admit it is wrong, because I know you did the best you could,—and so does everybody else who has ever heard you speak about it. So that, Mr. Morgan, your whole theory, reduced to its last analysis, depends upon the infallibility of your judgment or assumption of the equality of value between the railroad lands and the non-railroad lands, in each section, does it not?

A. It depends upon the infallibility of the assumption.

Q. Well, now, do you want to use the word "assumption" in that connection, or do you desire to express it as a determination, as a matter of opinion and judgment, Mr. Morgan? As I understand it, you yourself made the sections, that is, determined their size and shape, etc.?

A. Yes.

Q. Now, I want to ask you whether or not you used your best judgment and determined that, on the average, the value of the railroad lands and the value of the non-railroad lands, in each section, were equal the one to the other, and was that opinion the basis upon which you determined the size of the section to be included or the amount of contiguous lands to be included?

A. My best judgment was used in establishing the sections from which to measure the value of the lands that were owned by the railway companies.

Q. So that, your aim was to include in the sections, land

non-railroad, which is of the same value as the railroad land in the section to be valued, and contiguous?

A. The value of the railroad lands was established from the contiguous lands.

Q. And in order to establish that, you had to assume or determine, as a matter of judgment, an equality of value between the railroad land and the contiguous land, didn't you, or it would be no good?

A. There had to be a direct relation, certainly.

Q. It had to be equal, didn't it, on the average?

A. Yes.

Q. So that the size and shape of these sections depended upon your judgment, did they not, as to the equality of the value of the non-railroad lands adjacent to the railroad lands to be valued, in each section? It gets right down to a matter of your opinion about it, does it not?

A. It comes down to a matter of opinion so far as the framing of the sections is concerned,—

Q. That is what I mean.

A. —but so far as the results are concerned, it comes down to a matter of fact.

Q. Of computation, does it not, from these assumptions; it is a mere matter of computation, is it not?

A. It is a matter of computation.

Q. So that your whole scheme of valuations depends, does it not, upon the infallibility of your judgment of equality of value of non-railroad lands and railroad lands in each section?

A. It does, to a certain extent; it might be modified, slightly, one way or the other.

Q. How could it be modified?

A. By changing the sections.

Q. Yes, that is it. If you change the sections, you will change the result, generally speaking, will you not?

A. That is the idea.

Q. Yes, sir.

A. And, as I say, my best judgment has been used in establishing the sections.

Q. So that, another man coming along, of equal experience and skill as you, might be of opinion that this railroad land of the Union Depot Company in Section 2 was, on the average, worth as much as the land contiguous to it and extending clear to Fourth street, might he not?

A. I couldn't say what anybody else would do.

Q. You don't think so, do you?

A. No, I do not.

Q. But you do see that if you included there a distance similar to the distances you have included on other sections, in all human probability, you would get a different result from what you did, don't you?

A. If the section had been extended, it would probably have made a difference in the result.

Q. Probably increased it, wouldn't it?

A. I haven't analyzed the details of it.

Q. Well, Fourth street property is worth more than Third street property, isn't it?

A. Well, yes, it is, in a general way, along Fourth street.

Q. In that vicinity. And so, if you came over to Fifth street, and so on—

A. Yes, it might go clear on over to Seventh street.

Q. —it would have increased it. So, if you are right that the railroad lands in Section 2 average just the same as the non-railroad lands in Section 2, if you are right in that, then, as far as respects that assumption, your result is right; but if you are wrong, the result is wrong, isn't it?

A. I think I have already stated that.

Q. Now, with respect to Section 3 here, what is the area of the Union Depot Company's land in Section 3?

A. They own about 58/100 of an acre.

Q. And, you gave me the figures this morning, how much per acre?

A. That was $37,247 true value and $65,182 railroad value.

Q. So land at one end of this yard, the cost of reproduction new, you have figured out to be $65,000; that is at the east end of the yard?

A. Yes.

Q. And land at the other end of the yard, you have figured out to be worth $217,000, cost of reproduction new?

A. Something like that, for the whole section.

Q. For the whole section?

A. For the whole section.

Q. And the most valuable part of that would be next to Sibley street, wouldn't it?

A. Yes, just in the same proportion you gave the illustration this morning.

Q. And, roughly speaking, the reproduction-cost new, up here at Sibley street, you would yourself admit would be about $300,000 an acre, wouldn't you?

A. Well, I haven't divided it that way.

Q. Now, do you think, as a matter of fact, Mr. Morgan, that, per unit of area, the land at the west end of this yard is worth from three to three and one-half times as much, reproduction-new cost, as at the east end of it?

A. Based upon the value of property in the respective districts, on a reproduction cost that is what it shows.

Q. Yes, according to your theory, that it what it shows. Now, I want to ask you, frankly, as a man of experience in railroad matters, land matters, etc., whether you think, in point of truth, that the half acre of land at the west end of this yard is worth three and one-half times as much as a half acre of land at the east end of it, independent, now, of your theory or your rules?

A. I am adhering to my theory in this matter.

Q. Well, I know, but I want to see whether you have any respect for it or not.

A. Yes, sir, as applied to that situation.

Q. Do you believe it sound, do you believe that that is true, in point of fact, that the land at the west end of Section 2 is three and one-half times as valuable as the land in Section 3 on this map?

A. For what purposes?

Q. Cost of reproduction new.

A. Then it is, yes.

Q. Market value,—what do you say about that?

A. The same thing.

Q. True value,—what do you say about that?

A. I am not saying anything. Strike out what I say in respect to the market value, I am speaking of the true value.

Q. Normal value,—what do you say about that?

A. That is the true value.

Q. So you say, now, by "true value" you mean the same as you told us you did by "market value" when you wrote to the railroad companies; isn't that so?

A. I said, yesterday, that sometimes it was and sometimes it was not.

Q. Well, now, then, as to your true value or your market value, that which you called market value in your letter to this Company, are you of opinion that the land at the north end of Section 2 is worth three and one-half times as much as the land in Section 3 of this depot map?

A. For what purpose?

Q. Can you answer the question as put?

A. That is the way it has been worked out, according to the sales-method.

Q. I know that, but do you think that right?

A. I do.

Q. Now, for railroad purposes, Mr. Morgan, do you think the land at the west end of Section 2 is worth two or three times as much as the land in the throat of the yard, in the middle of Section 1?

A. I am not speaking of that land as a utility, I am speaking of it on the basis of the reproduction cost.

Q. Now, I will ask you if you are willing to speak of it taking into account its utility for railroad purposes; then let me see what you say.

A. I have framed no opinion in respect to that. It might be worth anything that anybody would put upon it.

Q. Now, have you any opinion as to the value of any of this land, or been able to form any opinion as to the value of any of this land in the union depot yard, taking into account its adaptability for railroad uses, its utility value and its strategic value?

A. As I stated before, the multiple which we applied to establish the railroad value there, has been made up from lands which have a strategic value, and therefore the multiple is greater than would be the case with this were those specially high-price lands to the Railroad Company eliminated.

Q. Taking into consideration the utility of the land in this throat for railroad purposes, after all your computations and your figures and your definitions, etc., can you express an opinion as to the value of that land, when you consider its utility for railroad purposes?

A. I have assumed, Mr. Butler, that we were trying to get at a basis upon which it would be fair to earn a return.

Q. Never mind.

A. I don't think that utility comes in on that question.

Q. Well, I don't care what you think about it; I would like to have you answer the question, if you can, and if not,

say so, and I will ask you another one.

A. I can't answer that question, because that is not upon the proposition.

Q. So, then, in the determination of these figures, no matter the purpose for which they are, the item of utility has been left out, has it not?

A. In that sense,—the value which would attach to it because the Railroad Company owns it.

Q. Is that what you mean by utility—

A. Just as—

Q. —for railroad purposes?

A. Just as explained this morning, what would a section one hundred feet long on the Northern Pacific be worth, if it were taken away from them, between here and Minneapolis?

Q. If there was no railroad improvement on that strip of land at all, would it have any utility value for railroad purposes?

A. Not unless it is utilized.

Q. So, then, your idea is that this element of value on account of utility does not attach until it has been used; is that your understanding of it?

A. That is true, to a large extent.

Q. Is it wholly so?

A. Other than I have stated that the multiple takes into account the very high prices which have been paid.

Q. With reference to future adaptability is there any peculiar value by reason of peculiar adaptability?

A. None that enters into this problem, as I consider it.

Q. Well, I don't mean that. I mean independent of your reproduction cost; I mean the value of land for railroad purposes. The fact that is is peculiarly adaptable to the use, though it has never been used, does that in your opinion enhance the value?

A. Not the reproduction cost.

Q. Leave that out, but the market value, the purchasing value, that for which it can be bought.

A. I think that was illustrated in connection with the high price that we got on some lands and recognized that along the river where we take high-priced property to measure the value with.

Last question read.

A. I think that fact has been recognized by the gradual increase.

Q. That is not an answer to the question.

A. Towards the river.

Q. That is not an answer to my question. I am not asking what has been done or what has been recognized; I am asking you a plain question, whether adaptability of land for railroad uses, though it has never been used, is an element which enhances the value. Now, that is a plain, simple question.

A. Yes, I think it does.

Q. You think it does; and sometimes to a great extent, does it not?

A. Yes, I think that is so, too.

Q. And sometimes the most valuable land in a given locality or community, is land that is not adapted for anything else but railroad purposes, can't be used, as a practical matter, for anything else, isn't it?

A. Yes, that might be true in respect to some lands.

Q. Very often is true, isn't it? You occasionally find a piece of land that lends itself to railroad uses that isn't any good for anything else, isn't that true, and the fact that it is peculiarly adaptable for that use makes it very, very valuable?

A. The railroads pay more for it, yes.

Q. And have to pay to get it, don't they?

A. Yes, I think they do.

Q. And that is the situation with respect to much of this property right here on that river front, isn't it, in this union depot yard?

A. It might be, in some respects, yes, although I never have considered that that particular location there was indispensable to the railroads of this city; if the people are going to realize their anticipations for the future greatness of St. Paul, the union depot must be moved from that location.

Q. Did you take that fact into account in getting at the values you put in this Ex. TT?

A. Not at all. That is a statement I believe in.

Q. But the fact that you think this depot ought to be taken away from there didn't affect your determination of this value?

A. No.

Q. Now, what criteria did you go by to value that fraction of an acre in section 3? how much area did you take into account?

A. We took in the area colored in brown here, all of this property (pointing) and took the value of the property on this side (pointing) on the east side, and then we took the average value of the property on this side (pointing on west side).

Q. You took the value of the railroad yard, bounding it on the west as you determined it?

A. Yes.

Q. That value was founded on the four assumptions that you have already spoken of?

A. The same basis.

Q. Five, as to that, because we have the 43 per cent of increase as you approach the river?

A. Yes.

Q. So you had five assumptions there. And on the other

side, you only had the four assumptions; isn't that true?

A. Yes.

Q. Now, that, all together, makes nine; and if anyone of those assumptions is wrong, your result is necessarily wrong, is it not?

A. Yes.

Q. How did you get at the yardage in that depot?

A. That was furnished me by the St. Paul Union Depot Company.

Q. And you agree?

A. I do.

Q. No way in the world to get at it by physical examination, is there?

A. Just as I stated in my report to the Commission, that, many times, development of a property which has been long given over to railroad uses, has so completely changed the topography of the country that it is impossible to arrive at an intelligent estimate of the quantities involved, and, therefore, it was necessary to accept the figures of the railway companies as they had been turned in. They had the records of it.

Q. And the whole difference, then, between you, is one of price isn't it, on the grading and on everything else; there is no difference in quantities, is there, between you and the Union Depot Company?

A. I think it is very largely made up of price.

Q. Where there was any difference, it is a difference of price entirely, isn't it?

A. Yes, a difference of price.

Q. Have you the map by which you valued the lands of the Duluth depot?

A. No, I haven't that here.

Q. Comparatively little difference there?

A. Yes.

Q. No dispute as to the quantities of grading up there?

A. No.

Q. Or any physical thing?

A. Only the ballasting. I think you raised the question of the ballasting, yesterday.

Q. A difference in quantities?

A. No, it is a difference in price.

Q. Well, all differences that there are are ones of price?

A. Yes, I find that the figue turned in by the Duluth Union Depot Company was for 2.83 miles of ballasting at $2,464 a mile. Well, that appeared to me to be a mistake of some kind, because that is the highest price for ballasting that we ever had on any railroad in the state.

Q. How much per yard was your price?

A. Forty-five cents a yard.

Q. What was theirs?

A. I haven't figured it out.

Q. Can you, by physical examination, get at the yardage of the ballasting? Take a place where ballast goes down and keeps on going down and down and down, and they use it for years and years, can you, by examination, tell how many yards of ballast were hauled on there, or anything near it?

A. The railroad companies, themselves, reported the depth of ballast on this line, and they reported it at twelve inches under the tie, which we accepted.

Q. Was there any difference in yardage between your estimate and theirs?

A. I presume not very much, if any.

Q. It was one wholly of price?

A. Wholly of price.

Q. Now, Mr. Morgan, with respect to these sectional maps, you haven't reproduced them, have you, or made any provision for reproducing them, in a smaller size or form?

A. No, I have not.

Q. That work has not been undertaken?

A. No.

Q. There is no way to get them in evidence save to put them in as they are?

A. That is the only way.

Q. Now, does that one on Section 3 take in any part of the bluff?

A. Just at the foot of the bluff.

Q. Doesn't take in any part of the bluff?

A. No.

Q. You didn't take in the bluff, because you didn't think it was worth as much as the land at the foot of the bluff; isn't that true?

A. No, that wasn't the reason. It gave us a pretty fair area in here, and we divided on Commercial street, because Commercial street was a convenient point to follow all the way around the bluff.

Q. Wouldn't you think that the bluff there had the same value as the land at the foot of the bluff?

A. Well, some parts of it might not, and other parts of it would have, perhaps, a greater value.

Q. But, on the average, would it be the same?

A. Well, I haven't investigated the matter, Mr. Butler, and I wouldn't want to say, off-hand.

Q. Now, in your testimony on your former examination, you told us that your aim was to keep away from the individual opinions as to the value of land and establish it by some other method; did I understand you right about that?

A. Yes, I sought to get away from individual opinion as far as possible.

Q. Has it not appeared, now, that your whole scheme depends upon your individual opinion as to the equality of value between non-railroad land lying adjacent to the railroad lands to be valued?

A. No, not in the slightest.

Q. It doesn't depend upon that in the slightest; what is that?

A. Not in the slightest.

Q. The equality of value?

A. Yes, that is true; the statement has been made, time and again, I think, that these lands have been valued from contiguous property. It necessarily follows that there must be an equality.

Q. Yes, but the result is wrong. Now, Mr. Morgan, do you find it any easier to form an opinion as to the value in dollars of a given lot, of a given tract of land down here (pointing) and then determine whether or not on the average this in here is of the same value? Why isn't one problem just as hard as the other and just as much a matter of opinion? That is to say, why isn't it just as much a matter of opinion and just as difficult a subject to form an opinion on, to determine the equality in value of two pieces of land such as you put into each of these sections, non-railroad and railroad lands, as it is to form an opinion as to the market value of either? How can you determine, as a matter of judgment, the equality of value between non-railroad land and railroad land, in each section, without first determining, in your own mind, the value of each?

A. In all cases the contiguous land has been taken as a basis, and the railroad value has been worked from that. Now, as I stated before, there must be an equality, but is it not easier to determine the value of a piece of land where you have some base to work on, than it is to take an abstract piece of land there, without considering what other land is worth, and base your judgment upon that?

Q. Why, does your scheme amount to anything more than this: to establish the value of the land non-railroad, in each section, by this assessment method, and then come to the

conclusion that the railroad land which has not been assessed is just that same value? Isn't that the whole thing there is to it?

A. That is the base.

Q. That is the whole thing. And don't you see that the whole thing depends upon the soundness of your opinion as to the value of the railroad land, not expressed in dollars but expressed in what you may figure this out to be hereafter? Don't you see that it does, Mr. Morgan?

A. No, I don't see it that way, Mr. Butler.

RE-DIRECT-EXAMINATION.

By Mr. O'BRIEN:

Q. Mr. Morgan, the work of valuing the railroad properties in St. Paul was carried on simultaneously, was it not?

A. All railroad property in St. Paul, yes.

Q. And what was the total area of the railroad properties appraised by you approximately?

A. About fourteen hundred acres, I think.

Q. And, in arriving at your conclusions as to the value of any particular tract of land, did you take into consideration your conclusions as to the value of properties generally?

A. Yes.

Q. Now, you stated that, from the investigation which you made, from the investigation made by the committee of the common council, and from the investigation made by the tax commission of the state, you came to the conclusion that the assessed value of land was 60 per cent of the true value in the city of St. Paul generally?

A. It is.

Q. And that you take that ratio as to each section of the railroad lands formed by you, and, finally, as to all of the railroad lands of each railway?

A. Yes.

Q. That, in some instances, you found, in a particular section, the ratio was not borne out?

A. I did.

Q. But that, in all instances, the ratio was borne out when you took in the entire tract of land?

A. Yes; I found some sections, also, where it was borne out—

Q. But it was not borne out in each particular section?

A. No.

Q. What was the case with regard to the sections in which the union depot lands were included?

A. It was borne out.

Q. Those sections were amongst those in which the general ratio conformed to the ratio found in those particular sections?

A. It did.

Q. In valuing the union depot lands, you valued, also, all of the railroad lands shown upon this map, did you, which were contiguous to the union depot lands?

A. I did.

Q. And did the value which you placed upon those lands bear a proper relation to the other railroad lands in the same vicinity?

A. It does.

Q. Your attention was called to the method by which you established the sections for the purpose of ascertaining the assessed value of lands to be used as the basis for arriving at the true value of the railroad lands; in all cases did those sections contain all of the contiguous lands to the railways not held by railway companies?

A. They did.

Q. So that, in that respect, you exercised no judgment whatever; the contiguous lands were always included?

A. They were.

Q. You did exercise your judgment as to the extent of the sections or the limits of the section?

A. Yes.

Q. Do I understand that you extended the sections to lands similar in character, or did you base your judgment as to the limits of the sections upon your opinion of the value of the lands?

A. Based upon the similarity of the lands, as far as it was possible to do so.

Q. The similarity of the lands and the similarity of their use; for instance, in the outlying portions of the city where the land for a large radius was of the same character, used for the same purposes, your sections were comparatively large?

A. Yes.

Q. When you reached the center of the city, where a difference of a block made a great difference in the character of the land, the use to which it was put, and, of course, of its value, your sections were smaller?

A. They were.

Q. Do you know of any other instances in the city where a difference of one-half mile in locality would result in a difference of more than three times in the value of lands? For instance, are there not lands in this city situated within half a mile of the Ryan hotel, which are not worth one-third of the value of the land upon which the Ryan hotel is situated?

A. Yes.

Q. Does the mere fact that the west end of the union depot yards is only distant one-half mile from the east end of those yards, of itself, prevent a difference of three times in the value of property at either end?

A. Not a bit.

Q. And that is a condition that is found in many parts of the city, is it not?

A. It is.

Q. If you took the tier of lots lying between Broadway and Pine street, from Sixth street to the river, and extended the assessed value as found in blocks 45 and 47 to the railroad properties, you would find for that strip of land a higher value, I understand—

A. A very much higher value, because—

Q. —than you have given?

A. Than I have given, because, in passing from Sixth street to the river, we are taking in, as a base, a class of property which is high in value. If we should come down two blocks, we will get a class of property as a base that is not so valuable; come down two blocks more, and it drops still more. So that (as I was not enabled this morning to explain this proposition) if I would divide this up along the individual block lines and carry it through from Sixth street to the river and take the average of it, I would get the figure which I have given as the average.

Q. Instead of that, you took the average first, and then ascertained the total value of the lands?

A. That is the idea.

Q. The result, in either case, would be the same?

A. The same.

Q. Is there anything peculiar with regard to the property situated in blocks 45 and 46?

A. It is a high-class property.

Q. Higher class property than the property found in block 47 or the other blocks immediately east?

A. Yes.

Q. Now, you did exercise your judgment in establishing the boundaries of the valuation districts?

A. I did.

Q. Subject to the fact that those districts always included all of the contiguous property?

A. Yes.

Q. But when you established those districts, you did not know the assessed value of the property included within the districts, or the sale-price of the property included within the districts?

A. I did not.

Q. Nor did you know the number of sales actually included?

A. I did not. In other words, I have gone about it in a perfectly fair way, without taking the results first to see where it would lead me; I let the facts lead me as they would, after having established a base.

Q. If you had the entire assessment of real estate in the city of St. Paul for the purposes of taxation, and the entire sales of property within the city for five years, the ratio which the assessed value would bear to the average selling price would be a mere matter of mathematical computation, would it not?

A. It would.

Q. That doesn't depend upon any theory or upon judgment, it is a deduction of fact from other facts?

A. Yes.

Q. Is there anything else you would like to state, Mr. Morgan?

A. I don't think of anything further.

RE-CROSS-EXAMINATION.

By Mr. BUTLER:

Q. Mr. Morgan, I call your attention to Section 1 of your map. What land have you, if any, contiguous to that section between Third street and Sixth street, on the north of the section, contiguous to the railroad lands; have you any? The railroads come right up here to Broadway, do they not?

A. Yes.

Q. Railroad lands, certainly, between Third and Fourth; and now between Fifth and Sixth?

A. Yes.

Q. And you have nothing on the north, have you?

A. Nothing on the west.

Q. That is one instance where you didn't take in all the contiguous lands to the railroads, did you?

A. The base was made from the—

Q. Yes, but to Mr. O'Brien, you told him that you always took in all the contiguous lands. By which you meant where physical conditions would permit it, you always had some non-railroad lands along the whole of the boundaries of the railroad lands in each section?

A. As far as possible to do so.

Q. But this is one of the instances you didn't do it, isn't it?

A. In that particular case there, we measured that land from Sixth street.

Q. Now, don't you think it would have affected the value very seriously if you had come up to Rosabel between Third and Fourth, or to Wacouta?

A. It might have done so.

Q. But your judgment was that that land was not equal in value to the railroad lands, wasn't it? That is the reason you left it out, isn't it?

A. Not necessarily so. We figured that from the north end entirely.

Q. Well, you have always tried to get all around it on both sides, where you can, isn't that true?

A. That has been done as far as it could be done.

Q. Here was a river, that prevented you on one side?

A. Yes.

Q. You had two other sides here as to some of these, but you only used one of them?

A. Used the west side.

Q. Now, wasn't it, as a matter of fact, Mr. Morgan, because you were of the opinion, yourself, that the land from Wacouta street in this angle along Wacouta street, to Sixth and down to Sixth, right in the angle between Section 2 and Section 1, was not of the same value, on the average, as the railroad lands that you tried to average? Isn't that the reason you left them out?

A. In Sections 1 and 2 we had measured from the north side, in both sections. There was no way that that could be conveniently worked in.

Q. Mr. Morgan, it would be very convenient, would it not, to include from Third street along Wacouta to Sixth street, then down Sixth street here, and get one, two, three, four, five, six blocks, of non-railroad lands, abutting on the railroad property contiguous to it, capable of being devoted to railroad use; it would be very convenient to get the assessed valuation there?

A. It would take a good deal more land into account, Mr. Butler, than there has been, there is no question about that.

Q. But the reason you left that out, Mr. Morgan, was because you were of opinion that the examples to be taken from that were not fair? I don't care which way.

A. No, I don't think that would be fair.

Q. And that is the reason you left that out, isn't it?

A. That is the reason.

Q. But now, if you are wrong about that, your result is wrong, isn't it?

A. That might necessarily follow.

Q. Now, about this opinion matter again: Much of this land on Third street, that you have taken into account here, has not been reassessed for many years; isn't that true?

A. It doesn't make a particle of difference what the assessment is as long as you have the ratio.

Q. So I understand, arithmetically. Now, Mr. Morgan,

the assessed value is always a mere matter of opinion, isn't it?

A. Primarily, yes.

Q. That is all it is, the opinion of an individual sent around assessing improvements and the like?

A. Yes.

Q. And if, in one district, on one street, there were a man of generous views, and on another street there were a stingy man, with narrow views, you would get great differences; and that is disclosed, is it not, in experiencing a range, in your own investigation here, from thirty-four per cent to one hundred and thirty-eight per cent of value?

A. Yes, it would make a difference, the assessors make a difference.

Q. And you, of course, didn't know what kind of men were assessing in here?

A. The ratio established that, from the sales, they were assessing pretty intelligently.

Q. From those individual sales?

A. Yes.

Q. Now, the more sales you could get in, the better it would be, wouldn't it?

A. Not necessarily so, unless you get the right kind of sales. For example, I might have put in sales here on this property that were given for "one dollar and other valuable considerations." Now, that is no basis to take. If the price reflects the value—

Q. Well, you misunderstood me, I meant the kind of sales you took.

A. Yes, the more sales, the better, unquestionably.

Q. And you didn't take in these sales up here that you found—

A. No.

Q. —to make the test to see whether or not that relation

applied with this part of the town, did you?

A. No.

The MASTER: By "up here" you mean on the west side of section 2?

Mr. BUTLER: The west side of Section 1 and the north side of Section 2, in that angle there.

The MASTER: Well, north and west?

Mr. BUTLER: This is north.

The MASTER: North and west.

Mr. BUTLER: This is north, this way. I mean that tract of business property in the angle there, between 2 and 1.

The MASTER: Yes, that is right.

Q. Now, Mr. O'Brien asked you, if you figured Section 1 by detail and summed up the details, whether you would come out as you have; have you done that mathematically?

A. I have not done it, but it will bring out substantially the same result.

Q. Now, that is the thing I asked you to do, isn't it?

A. Yes.

Q. I would like to see those figures. I intended to ask you, Mr. Morgan, to take the two blocks from Broadway to Olive, in Section 1, and figure,—that you did this morning, and showed 34 per cent?

A. That 34 per cent only related to that area between Broadway and Olive street.

Q. That is what I say; as to that there was 34 per cent difference?

A. Yes, but your 34 per cent that you get there, Mr. Butler, is making a computation that relates particularly to that and comparing it with a computation that relates from that point to that. So, therefore, it is not a fair comparison in itself.

Q. Well, everybody knows what it is. Now, I ask you this question, to just divide that section in two—

A. Yes, I shall be very glad to do that.

Q. —along Olive, and see whether it will come out the same way.

A. I shall be very glad to make that computation.

Q. Now, with respect to the railroad lands in Section 1, of different companies, except as to this variance of 43 per cent from the north to the south, is it valued the same on the average?

A. No, the value changes as we advance for each company.

Q. Well, that is what I say; the 43 per cent—

A. Well, the 43 per cent doesn't apply only to the union depot, because the property between Fifth street and Sixth street is taken as a base. Now, then, by interpolating from the figures in the reports of the railway companies, in which this whole area was appraised by them, the ratio increases in proportion to the distance, as we advance; and when we reach the union depot, we find that the distance and the proportion gives us 43 per cent increase. It would be less for those other lines working back to the base.

Q. So, foot against foot, of the Milwaukee property on the river front, is the same as the Northern Pacific valuation out at Sixth street, except there is 43 per cent added; is that right?

A. That is the interpolation from the figures.

Q. Well, is that the result?

A. Practically the result.

Q. If you have the price of an acre of the Northern Pacific between Fifth and Sixth in Section 1, you can get the value of an acre of the Milwaukee on the river front by simply adding 43 per cent to it; is that right?

A. Interpolating from the figures which the railroad companies themselves have used, I can, yes.

Q. You have told me, a dozen times, where you get them,

but just tell me now, whether or not if we take the average price per acre of the Northern Pacific property between Fifth and Sixth streets we can get the average price of the Milwaukee property on the river front in Section 1 by simply adding 43 per cent to the value of the Northern Pacific property.

Mr. O'BRIEN: I understood that 43 per cent applied exclusively to the Union Depot property.

Mr. BUTLER: Well, I thought it went clear to the river; I didn't know that they stopped before they got to the river. He will fish it out; I didn't mean to mislead him, because I thought he went clear to the river.

Mr. O'BRIEN: If you did, then it would be more than 43.

Mr. BUTLER: I supposed he calculated it flat 43 from here.

WITNESS: The Milwaukee turned in a very much less valuation for their property than the St. Paul Union Depot did.

Q. But that didn't change your mind any about it, did it?

A. Yes, it did. I followed the interpolations throughout. The same men that placed a value on this property placed the value on that property and on this property, and that was their estimate right straight through for that property, and that was the relation which each property bore to the other and which I stated I had to utilize in arriving at my figures.

Q. And you were controlled, in part at least, by the appraisals of the witnesses who testified for the complainant?

A. Yes, to the extent which they themselves showed the differences.

Q. That is, as to the differences but not as to the percentages of differences?

A. Yes.

Q. And not as to the amount?

A. Yes.

Q. So that Mr. Read and Mr. Taylor and Mr. Watson had

furnished you, or the Railroad Company, had furnished you the appraisal of these gentlemen of the property of the Milwaukee Company in here, separately?

A. Yes.

Q. They had of the Union Depot Company?

A. Yes.

Q. They had of the Omaha Company?

A. Yes.

Q. They had of the Northern Pacific Company?

A. Yes.

Q. And of the Great Northern Company?

A. Yes.

Q. Any more companies in that section?

A. The Wisconsin Central.

Q. Now, their appraisal of the value of this land there differed, did it not?

A. Yes.

Q. That is, they put a different value for each company?

A. Yes.

Q. Per square foot?

A. Yes.

Q. You did not accept their value as to any?

A. I did not accept their value as to any.

Q. In dollars?

A. Other than a difference—

Q. Now, did you accept, as right, the percentages of the differences of values between their valuation of these properties?

A. Yes, I did.

Q. And does your conclusion of the value of each of these properties in that area depend, in some degree, upon the correctness of that percentage of difference?

A. Yes.

Q. That is another assumption that we haven't marked

down, isn't it, Mr. Morgan?

A. If you wish to call it such.

Q. Well, it is, isn't it?

A. Yes, I presume it is.

Q. Now, in your valuation, is the value of the river-front property, owned by the St. Paul Company, higher or lower than the Union Depot Company's property next on the north?

A. It is lower just in the proportion that it has been turned in by the Railroad Company.

Q. Do you think it is worth less? Independent, now, of your theory, for railroad purposes.

A. It might not be.

Q. How much less have you it estimated, in percentage? You have the Milwaukee property bounded here, haven't you?

A. Yes.

Q. So we could mark right on here the average price per acre, couldn't we, of the Milwaukee property?

A. Yes.

Q. Now, suppose we get that figure and do it, compare it with the Union Depot property beside it; can you do that right away?

A. Yes. For the Milwaukee it is $66,078, and for the St. Paul Union Depot—

Q. That is reproduction-new cost $66,000?

A. Yes,—and for the St. Paul Union Depot, $80,706.

Q. No, it is $141,000 for the reproduction cost.

A. Oh, yes. Wait a moment until I see.

Q. $141,000, in round numbers is the Union Depot.

A. That is $115,637.

Q. Against $141,000?

A. As against $141,000, yes.

Q. Now, what property is next to the Union Depot Com-

pany's property on the other side, who owns that—the Great Northern?

A. The Great Northern, yes.

Q. And its tract is indicated here, is it not?

A. Yes.

Q. By Third street?

A. Yes.

Q. The south side of Third street?

A. Yes.

Q. Just like a hockey club?

A. Yes.

Q. Now, what is the value of that per acre, the reproduction-new cost?

A. $134,690.

Q. What is the next one on the north?

A. Wisconsin Central, $124,546.

Q. What is the next one?

A. Omaha, $120,418.

Q. And the next one?

A. Northern Pacific, $113,488; and Northern Pacific again (that is between Fifth and Fourth streets), $104,190; and the Northern Pacific again (between Sixth and Fifth), $98,292.

Q. So, then, as I read it, you begin with the Northern Pacific at $98,000 and continue to go upward until you get to the St. Paul Union Depot Company, where you reach $141,000?

A. Yes.

Q. And then you drop to $115,000?

A. Yes.

Q. Do you think there is any justification at all for the drop, on the face of the earth?

A. As I stated, my base is just as established by the railroad companies and the way their men made the valuation for it.

Q. Well, Mr. Morgan, were you guided by their valuation, or did you go—

A. I was guided by the ratio of one value to another.

Q. Well, didn't you think they were wrong in lowering the price of that river-front property below that, which was next to it, don't you think that was a mistake?

A. Well, I don't know, Mr. Butler, that it is a mistake; that property is less accessible than any other property in there. Here we have a street that comes down through here (pointing), here we have a driveway that comes down through here; here are streets that make this property accessible for terminal property, accessible for the loading and unloading of freight. This property (pointing) is not accessible in the same sense; they have no facilities for getting down except right in here where their freight houses are, in Section 2, and, therefore, the value of this property for railroad purposes is necessarily less than this because then it is not so accessible for the purposes for which a railroad is operated.

Q. Is the Omaha property there accessible?

A. Yes.

Q. Very much so, isn't it?

A. Yes.

Q. Is there any reason why it should be lower than the Union Depot property, that you can think of? The Union Depot property is not accessible at all, except to trains?

A. That is what it is used for. It is joint property for all the lines.

Q. Well, now, about the Omaha property?

A. It is accessible property.

Q. Isn't it worth just as much as the depot property in that section?

A. Not according to the estimate that they put on it.

Q. I mean I am asking for your opinion now. Just your

opinion, Mr. Morgan, not how it works out by some concatenation of figures, but just what you think about it, yourself.

A. I think that you can't exactly make a comparison between the two. The Omaha property is accessible for the purposes for which it is used there. Likewise, this property is accessible for the purposes for which it is used, taking into account that that is the beginning of the use, the same as the beginning of the use of the Omaha property is up there.

Q. Isn't it as easy to compare the value of the Omaha yard with the value of the Union Depot yard as it is to compare the value of either of the lands used for business purposes on the streets near by?

A. I should say not.

Q. You think not?

A. No.

Q. Why?

A. Well, because there is a different location of railroad property than there is to business property; it depends upon the outlet of the property.

Q. Do you find it harder, Mr. Morgan, to compare the value of railroad property, properties contiguous to each other, than you do to compare the value of a railroad yard contiguous to property devoted to business and residence uses?

A. Yes, I should say it was a much more difficult proposition.

Q. To your way of thinking, Mr. Morgan, it is harder to form an opinion as to whether or not there is equality in value between the Milwaukee property in Section 1 and the Union Depot property in Section 1, and the Omaha property in Section 1, than it would be to compare the value of the depot property in Section 2 with the value of the contiguous property on the north extending to Fourth street, is it?

A. If you are considering it as railroad property, that might be true.

Q. What might be true?

A. What you state. We are considering reproduction cost here.

Q. Does diversity of uses and sizes and shapes of tracts make it harder to compare the value of tracts of land than similarity of uses and size and shapes of tracts?

A. Is that tracks or tracts?

Q. Tracts.

A. I can't understand that question, to save me.

Q. Well, here you have two tracts of land to compare; one is railroad and the other is business, residences and the like; that is the situation you meet with all over the town, isn't it?

A. Yes.

Q. Is it harder or easier to compare the value of such tracts than it would be to compare the value of tracts that were devoted to the same use in the same general size, shape and the like?

A. I can't say that I have made an attempt to compare the value of tracts belonging to the railroad companies other than they themselves have established that.

Q. I don't understand that, Mr. Morgan. In your determination of this work you certainly, of necessity, compared the value of one railroad yard with the value of another railroad yard, located beside it in the same block and territory, didn't you?

A. Just in the proportion that the railroad companies themselves have established that.

Q. Yes; that is to say, now, did you follow that as a general rule, or was that an exception as to this Section 1 of this map?

A. That was, you might say, peculiar to this map 1 by reason of its environments.

Q. Well, were there any other instances where railroad yards of the different companies are included in the same sec-

tions in your work of revaluation? There are a great many such instances, of course?

A. Yes, but not with the environments that you find there.

Q. No, I know, not the same environments; but now, what I am trying to get at is this: Did you, in reaching your conclusion, take the percentages of differences in other instances than this Section 1 that you found in the returns of the railroads?

A. In certain places.

Q. Yes. That is, you assumed that their values were absolutely wrong, but relatively right?

A. I permitted them to establish the relationship.

Q. Well, you were, of course, trying to get the true value of this land?

A. Yes.

Q. And you didn't agree as to the actual value, the returned value, with anybody that returned it, did you?

A. Pretty close to what the Omaha put in.

Q. Well, did you as to the others? You differed from the others?

A. I did as to the others, that is true, but the Omaha Company I came pretty close to them.

Q. Well, that is right. You and I wouldn't go back on the Omaha if it was wrong.

A. They went back on the real estate appraisers, though.

Q. But what I am trying to get at, then, you reached the conclusion that the Milwaukee was wrong, the Union Depot was wrong, the Great Northern was wrong, the Wisconsin Central was wrong, the Northern Pacific was wrong, with respect to the valuations they returned?

A. Yes.

Q. But you assumed that they were relatively right?

A. Relatively right, as they have established it.

Q. And you assumed that the Milwaukee, because they re-

turned lower than the depot did, didn't enjoy as good land or as valuable land as the depot did beside it?

A. That was the relation we established.

Q. Don't you think it is a strange coincidence, Mr. Morgan, that if each one of these five Roads which we have mentioned was in error as to the actual value, the right value of their land for reproduction-cost new, that they would be relatively right,—that there would be the same degree of error in each one? Don't you think that a remarkable coincidence?

A. I don't know as I understand the question exactly, Mr. Butler.

Question read.

A. Well, I don't think that there is anything remarkable about that, because the value was all made by the same men.

Q. So that, take the St. Paul Company, which you fixed at $115,000, now we will say that Mr. Read and his associates had twenty-five per cent higher, would you say that that would also be in every way twenty-five per cent, half a mile away from there on the Northern Pacific, and twenty-five per cent on each one of the properties lying between them; that if one ought to be scaled down twenty-five per cent, they all ought to go down twenty-five per cent and be relatively alike when you got through with them? That is what you necessarily assume, isn't it?

A. I have stated, I think several times, that I took exactly the figures that the railroad companies turned in.

Q. Now, don't you think, as a matter of fact, that that is without justification, for you to assume that the returns of these various companies as they turned them in were all the same percentage in error? Don't you?

A. As I stated before, I don't think there is anything remarkable about that. Those valuations were all made by the same men, and they have come up here and testified that they

went over this matter thoroughly and carefully and fully, and they have presented their best judgment on it. Now, then, it is perfectly right, under those circumstances, that I should accept their best judgment as to the relationship which may exist between those various individual properties.

Q. Well, we will pass that. Now, this Section 1 is about as broad as it is long, isn't it?

A. About, yes.

Q. Your determination finds a spread in value from $141,000, increased by 34 per cent at the west boundary of that section to $65,000 in Section 3?

A. Yes.

Q. Viewing it in the other direction, we find a spread of from $98,000 to $115,000?

A. Yes.

Q. And it is all suitable for railroad yard purposes, isn't it?

A. Yes.

Q. The same uses?

A. Yes.

Q. Capable of being devoted to the same uses?

A. Yes.

Q. Now, if we take the spread of the whole length of this yard from east to west, the Union Depot yard, and compare it with like distance up this creek, we will find even a more astonishing situation, will we not?

A. I couldn't say; I haven't analyzed it in that way at all.

Q. Do you think there is any reason why the difference in value between the west end of the union depot yard and the east end of the union depot yard should be more marked than measuring the other way across these railroad properties?

A. According to the direction in which the railroads enter this city, I should say most decidedly, yes.

Q. You would say, and why, what has direction got to do with it?

A. There is where they are heading for; they are heading for the Union Depot; that is the end of the line, the objective point. For that reason it would make a difference.

Q. So you think that the closer to the depot they get, the faster you have to increase the value? Don't you think that the value there is the highest value in that yard?

A. Mr. Butler, you are constantly endeavoring to get me away from the proposition of reproduction cost; you are speaking mainly upon the lines of utility.

Q. No, I am speaking now just of value. I am asking upon the line of reproduction cost.

A. That land, as utilized by the railroad companies, is probably just as valuable for the purposes to which it is put as that land up there.

Q. More so, isn't it?

A. But that has nothing whatever to do with the cost of reproduction.

Q. That is, the value of it to be used as railroad purposes, in your opinion, does not affect reproduction cost at all?

A. It can't be taken into account in reproduction cost.

Br. Mr. O'BRIEN:

Q. Mr. Morgan, I understand that you came to your own conclusion as to the value of the railroad property located next to the property not used for railroad purposes.

A. I did.

Q. That was your first conclusion, was it?

A. It was.

Q. And that was the base used by you for the valuation of the properties lying immediately south of it?

A. Yes.

Q. And you ascertained the value of that, the most north-

erly property in Section 1, by the sales-method, as you have described it?

A. Yes.

Q. From an examination of the reports of the railway companies; based upon the valuations made by Messrs. Watson, Read and Taylor, you ascertained that the claimed value of the property increased to the south until you reached the Union Depot property?

A. It did.

Q. And including that property?

A. Yes.

Q. And decreased from that point south to the river?

A. It did.

Q. Having no property upon which there was assessed value immediately contiguous to the Union Depot property, you accepted the conclusions of those three gentlemen as to the increase and added that to the value which you had ascertained yourself for the Northern Pacific property?

A. I did.

Q. Is that it?

A. That is it.

Q. And that increase at the point including the Union Depot property amounted to 43 per cent?

A. It did.

Q. So that you added to what you ascertained as the true value of this property from the sales-method, 43 per cent, because these three gentlemen, appraisers for the Railway Company, had claimed that ratio of increase to that point?

A. I did.

Q. And in that respect the interpolation of that increase by you was a concession to the Railway Company as to the value of its property over and above what you found it to be from the sales-method; is that true?

A. That is true.

Q. If you had assumed that this property was all of the same value from Sixth street to the river, and had assumed that your method of arriving at the value of the property contiguous to Sixth street was correct, the value placed upon the Union Depot property by you would have been much less?

A. It would.

Q. It was increased by 43 per cent?

A. Yes.

Q. Now, you have been asked as to the different values placed by you upon property at the easterly end of Section 1 and at the westerly end of Section 1; did the railroad companies, in reporting to you, claim a similar value for all property east and west within that section?

A. The sections didn't correspond.

Q. Did any one railroad company claim that the property located at the east end of your Section 1 was maintained to the west end of Section 1?

A. No.

Q. Did any railroad company claim, or did the companies claim, that the value of the property from north to south through your Section 1 was the same?

A. No.

Q. You have been asked as to whether or not it was not remarkable that you should have found the same percentage of error in each railroad company's report upon the theory that your assessment of this value was correct; if your estimate of the value of this property is correct, did you find the same percentage of error in the various reports of the railroad companies?

Mr. BUTLER: That is impossible to be answered.

A. I can't say as to that.

Q. Well, now, I think you don't understand my question. What percentage of difference is there in Section 1 between the average price per acre as found by you and the price per

acre as claimed by the Chicago, Milwaukee & St. Paul Railway?

A. In Section 1 the difference between the Union Depot property and the Milwaukee property is $44,000.

Q. That is not what I ask, Mr. Morgan. I ask you what is the percentage of difference between the value as ascertained by you for the Chicago, Milwaukee & St. Paul property and as claimed by that company.

A. Well, I get about one-half of the value they do.

Q. The Union Depot property, I think you stated this morning, in answer to Mr. Butler's question, that the difference between you is about 28 per cent?

A. Well, that was on that abstract case there. Let me figure that out again.

Mr. BUTLER: 28 on the whole business, is right.

WITNESS: Yes, I guess about 28 per cent.

Q. Now, what property comes next,—the Great Northern?

A. Yes.

Q. What is the difference between your value and the value as claimed by the Great Northern, in percentage?

A. About 50 per cent.

Q. The Omaha?

A. About 30 per cent.

Q. Northern Pacific?

Mr. BUTLER: Let Mr. Morgan do this: Bring in here, when he comes in again, an exhibit showing the prices per acre, market value and reproduction-new cost, of each company's land in that section; then the returns claimed by each company and the percentage of difference. Doesn't that cover it?

Mr. O'BRIEN: That will cover it.

WITNESS: Yes, I can do it much better than to do it hastily.

Mr. O'BRIEN: That table will be, simply as to each company in Section 1, the average price per acre according to their report to you, the average price per acre fixed by you,

and the percentage of difference.

Mr. BUTLER: These appraisers didn't use the same sections here that you did, did they?

WITNESS: Well, substantially so; pretty generally so over the city.

Mr. BUTLER: I would like to have their sections shown with respect to this map, as to the three sections on this map; and I would like to compare the spread in value from east to west with your spread in value from east to west, and the spread in value from north to south with your spread in value from north to south.

WITNESS: I don't think their figures will show that, Mr. Butler, because their figures are put in—However, as far as it will go I will do that.

Mr. BUTLER: They put in a section, and the average price just as you do?

WITNESS: The average price, yes. I can't tell what their spread is because there is an average price the same as mine.

Mr. BUTLER: But if you begin at the top, call it the most valuable up this way, and the least valuable here, it would be fair to compare the top with the bottom, as we have been doing here, wouldn't it?

WITNESS: Well, as I say, as far as I am able to get that from their report, I will be very glad to furnish it, but I don't know, at the present time, just to what extent I can do it.

Mr. BUTLER: Well, do the best you can.

Adjourned until the morning of Wednesday, February 3rd.